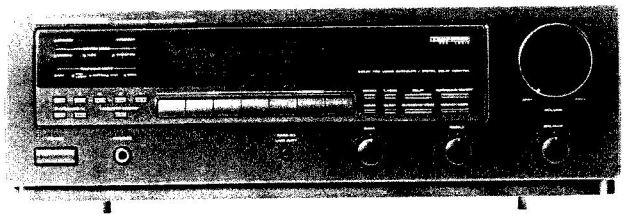
Service Manual

74PM711 / 02B / 02G

AV surround amplifier



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4822 725 51058

marantz®

model PM711AV

First issue : 1994/6
PCS 72 227

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available at our National Marantz Subsidiary or Agent.

MARANTZ EUROPE B.V.
P.O. Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands
Phone : +31-40-732241
Fax : +31-40-735578

ORDERING PARTS

Parts can be ordered either by mail or by telex. In both cases, the correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which the part is required
5. Way of shipment
6. Signature: any order form or telex must be signed, otherwise such part order will be considered as null and void.

ADDRESSES

AUSTRALIA
MARANTZ AUSTRALIA
Figtree Drive
Australia Centre
Homebush, NSW 2140
AUSTRALIA

AUSTRIA
MARANTZ
Hietzinger Kai 137a
1130 Wien
Austria

BELGIUM
MARANTZ EUROPE B.V.
Div. Benelux
P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands

CHILE
MARANTZ DIVISION OF
PHILIPS S.A.
Av.Santa Maria 0760
Casilla 2687
Santiago
Chile

DENMARK
MARANTZ
Horsvinget 5
2630 Tastrup
Denmark

FINLAND
MARANTZ
Kuortanegatan 1
00520
Helsingfors 52
Finland

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France

GERMANY
MARANTZ GERMANY GmbH
Kleine Heide 12
Postfach 4802
Halle-Westfalen
Germany

GREAT BRITAIN
MARANTZ HiFi UK Ltd.
Kingsbridge House
Padbury Oaks
575-583 Bath Road
Longford Middlesex UB7 OEH,
U.K.

GREECE
ADAMCO ELECTR. SA
P.O.Box 21025
Hippocratus Str. 188
Athens 11471
Greece

ITALY
MARANTZ ITALIANA SPA
Piazza IV Novembre 3
20124 Milano
Italy

JAPAN
MARANTZ JAPAN INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
AL ALAMIAH ELECTRONICS
P.O.Box 8196
Salmiah
22052 Kuwait

NETHERLANDS
MARANTZ EUROPE B.V.
Div. Benelux
P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands

NORWAY
MARANTZ
Postboks 7034
Assiden
3007 Drammen
Norway

PORTUGAL
COREL
Av. da Liberdade
211-2 Esq.
1200 Lisboa
Portugal

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia

SOUTH AFRICA
MARANTZ S.A.
10 Bond Street
Randburg 2194
P.O. Box 7703
Johannesburg 2000
South Africa

SPAIN
MARANTZ SPAIN
Martinez Villergas 2
Apartado 2065
Madrid 28027
Spain

SWEDEN
MARANTZ
Box 1324
17125 Solna
Sweden

SWITZERLAND
MARANTZ SWITZERLAND
Postfach
8010 Zürich-Müllingen
Switzerland

TRADING
MARANTZ TRADING
P.O.Box 20008
Building SFF 2
5600 JB Eindhoven
The Netherlands

All of the above locations are fully equipped to take care of your total service needs or can advice you. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

Audio Section

Rated Power

Front ..... 20 Hz - 20 kHz 8 ohms 65 W / Ch

Center ..... 1 kHz 8 ohms 75 W

Surround ..... 1 kHz 4 ohms 35 W / Ch

THD Front ..... 20 Hz - 20 kHz 8 ohms 0.09%

Input Sensitivity / Impedance

Phono ..... 3.5 mV / 47 k ohms

Linear ..... 220 mV / 30 k ohms

Phono Overload (1 kHz, 1% THD)

Phono ..... 150 mV

Signal to Noise Ratio (IHF A) RATED Power

Phono ..... 77 dB

Linear ..... 103 dB

Video Section

Input / Output Level / Impedance ..... 1.0 V_{p-p} / 75 ohms

Others

Power Supply ..... AC 230 V 50 / 60 Hz

Power Consumption ..... 550 W

Dimemsions

Width ..... 16 - 3 / 4 inches(426 mm)

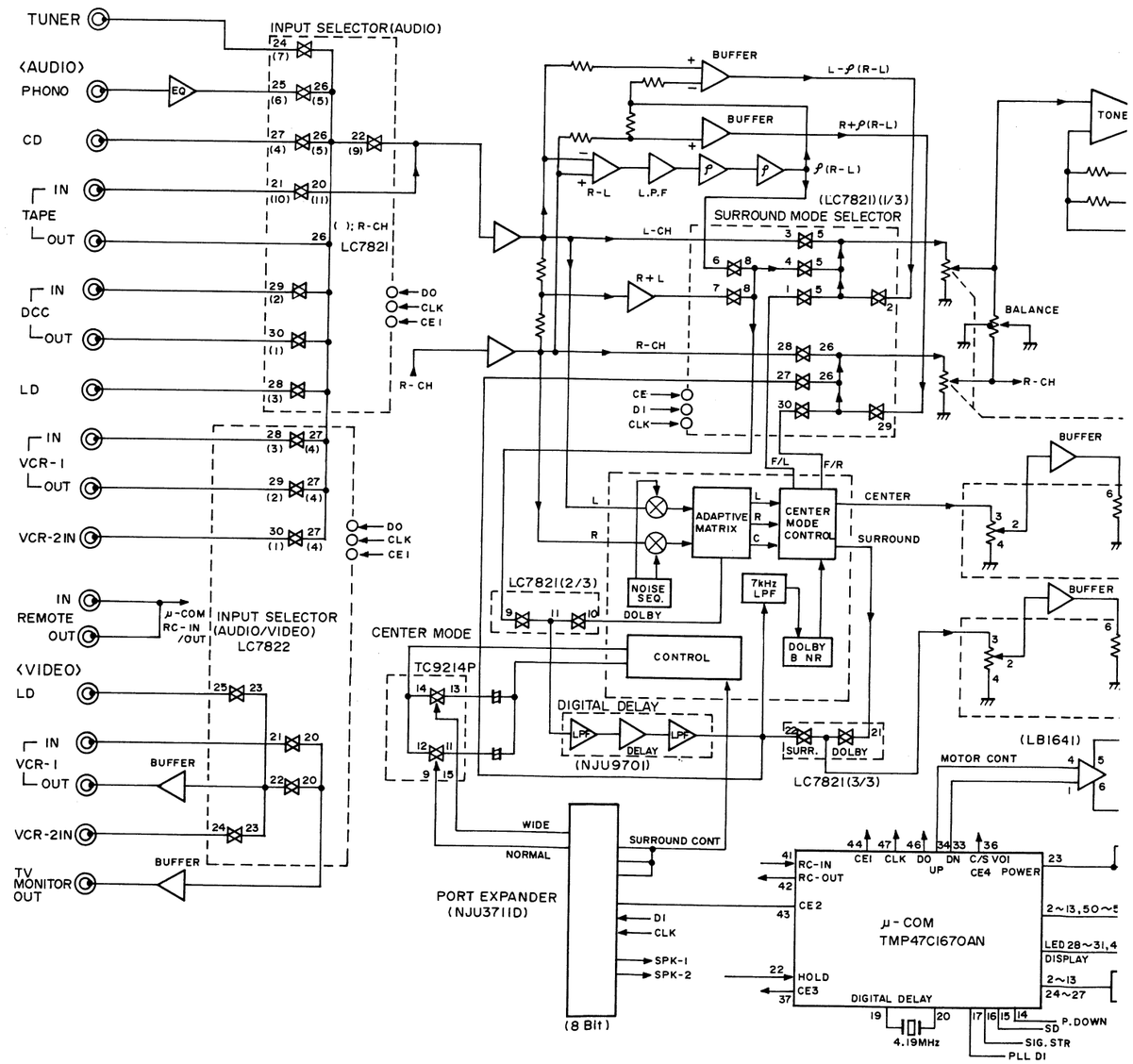
Height ..... 5 - 1 / 4 inches(132 mm)

Depth ..... 13 - 1/2 inches (341 mm)

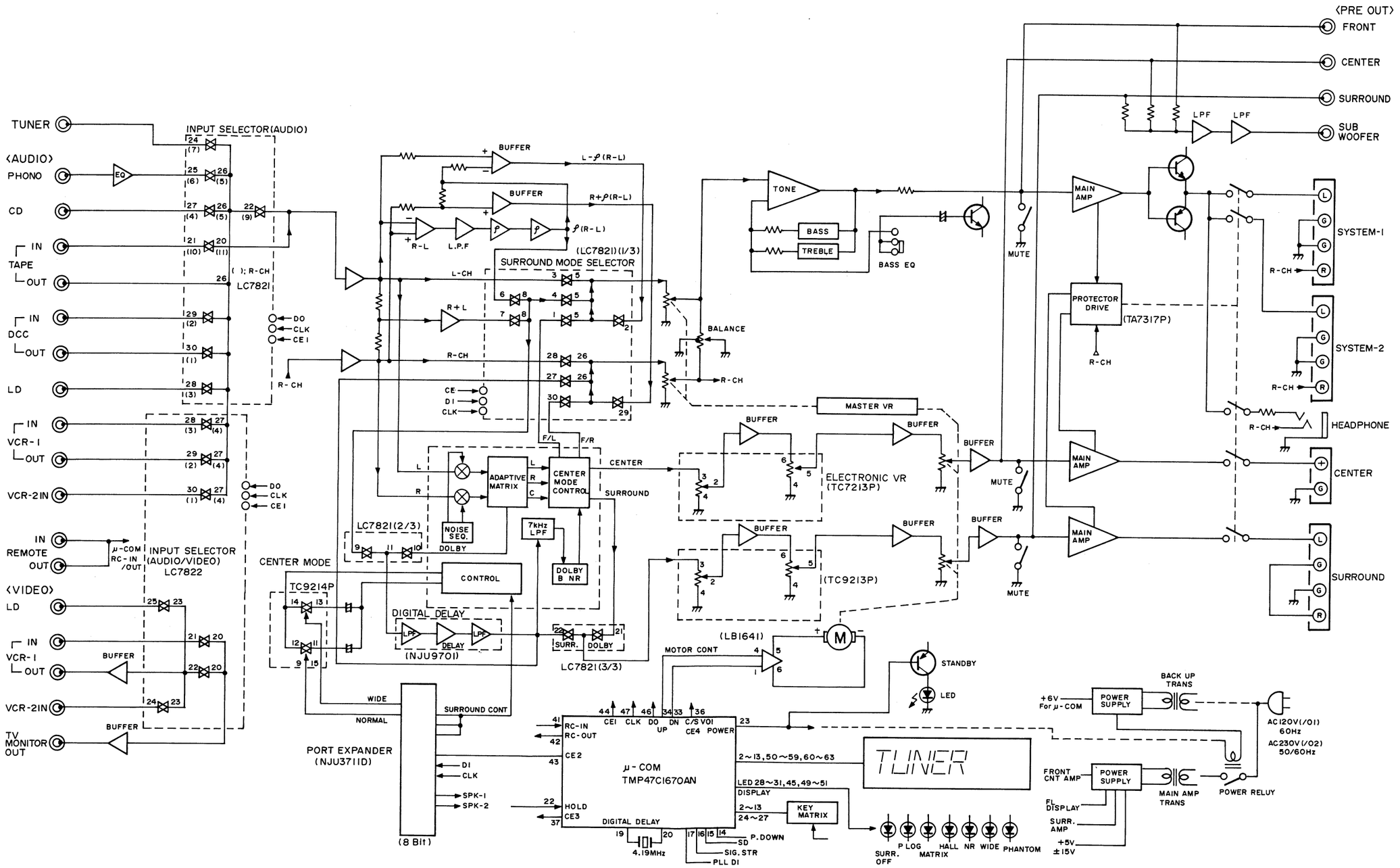
Weight ..... 21 ldb (9.4 kg)

Specifications subject to change without prior notice.

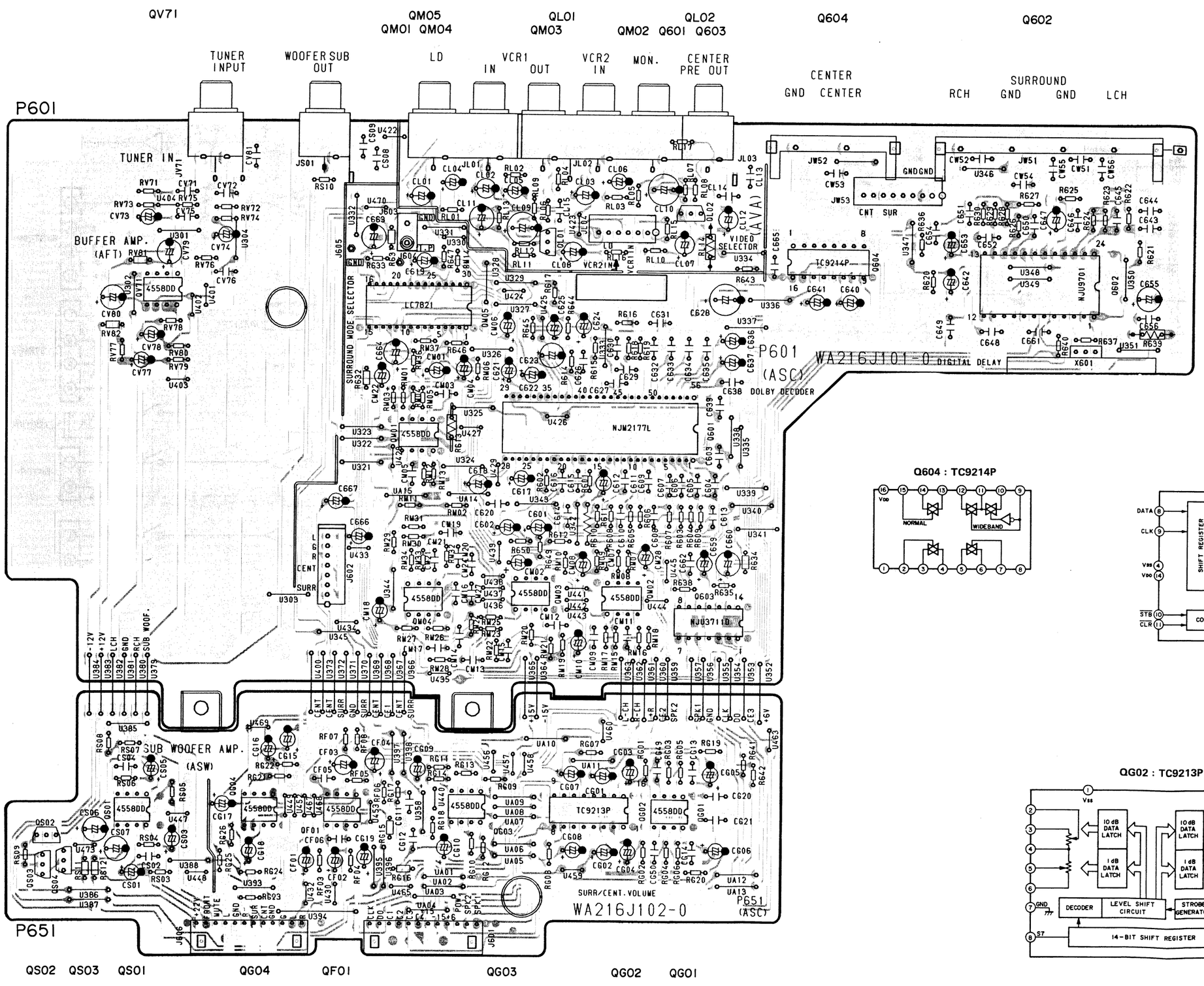
2. BLOCK DIAGRAM



2. BLOCK DIAGRAM



3. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)



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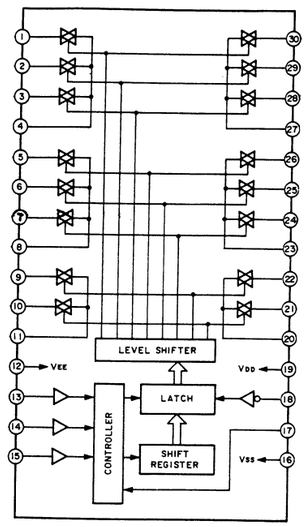

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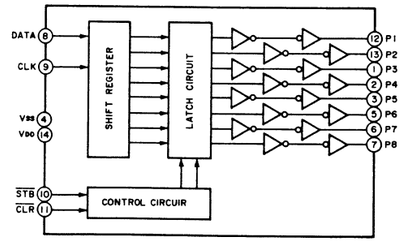
Q603 : NJU3711



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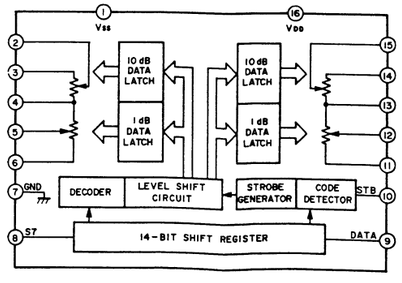

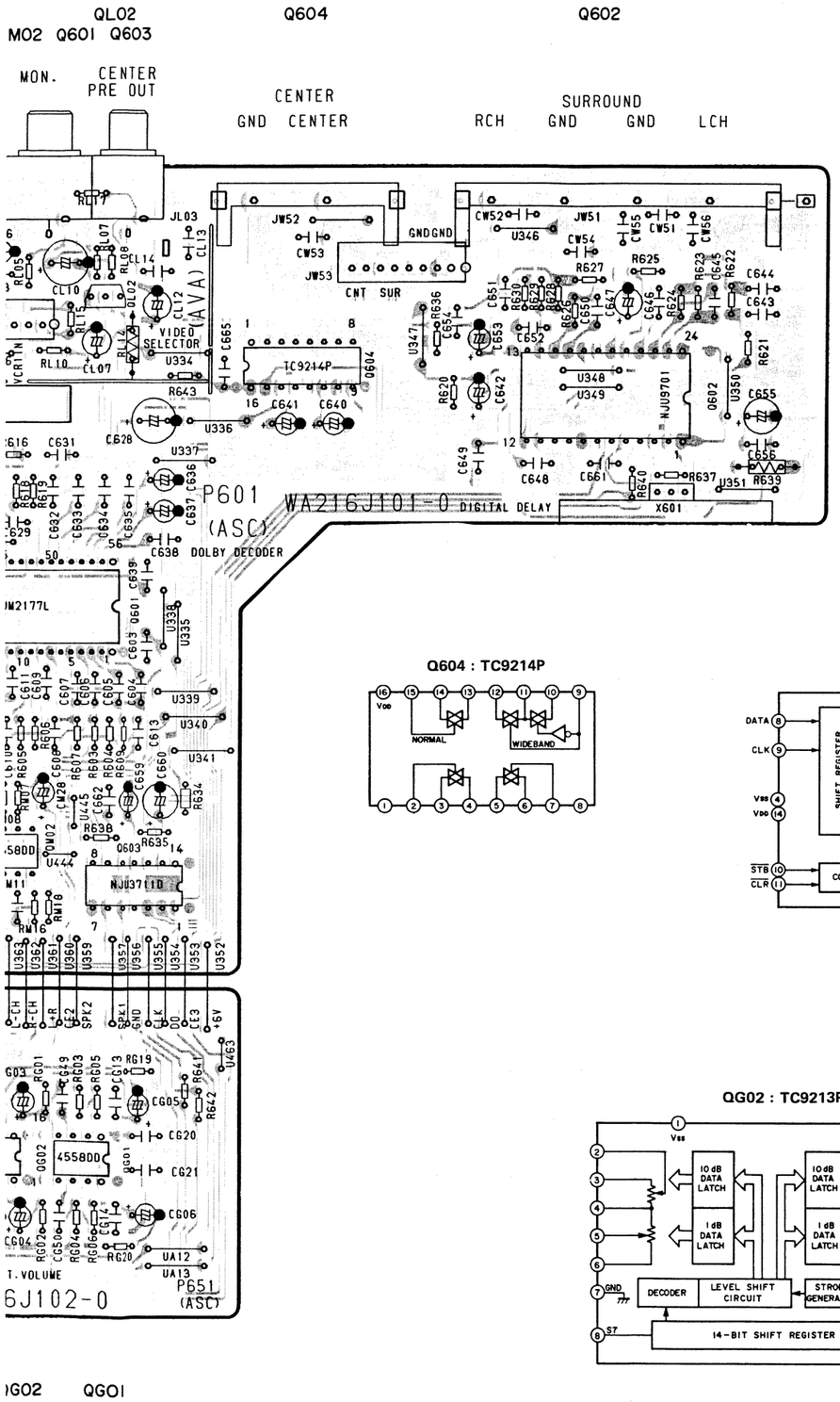

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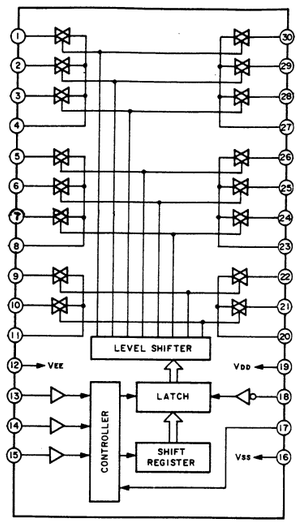
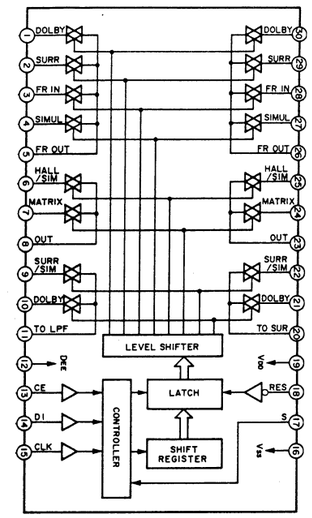


QM05,QV01 : LC7821



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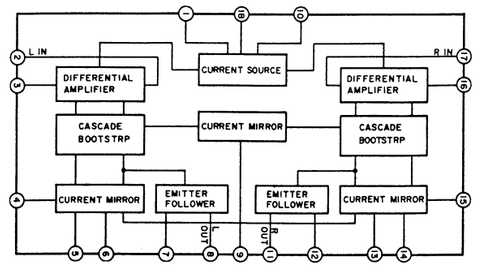

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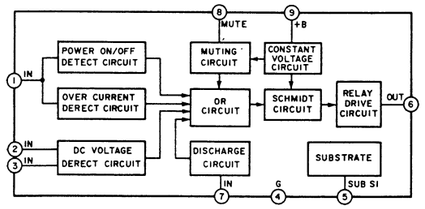

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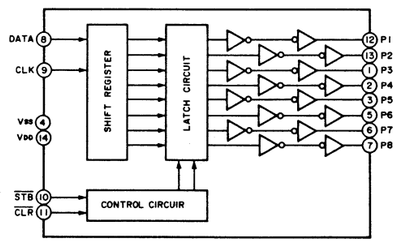
Q603 : NJU3711



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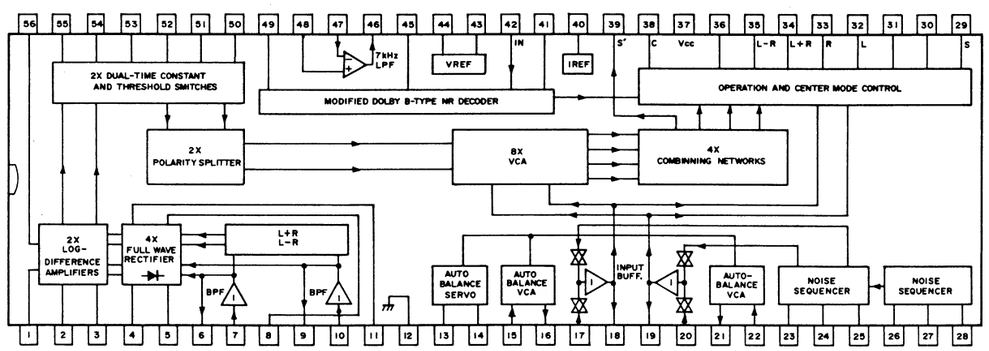

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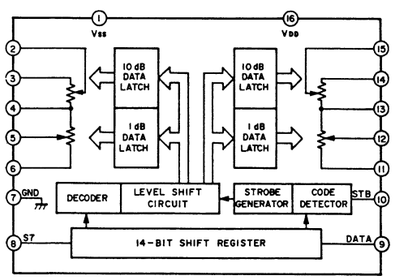

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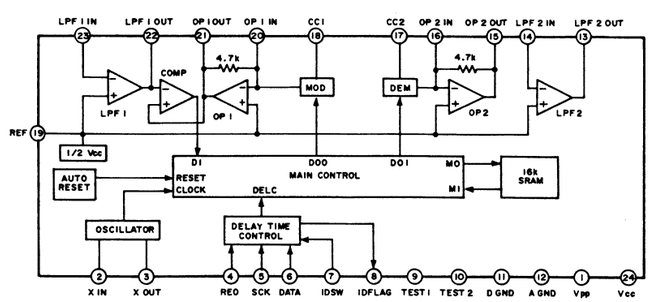
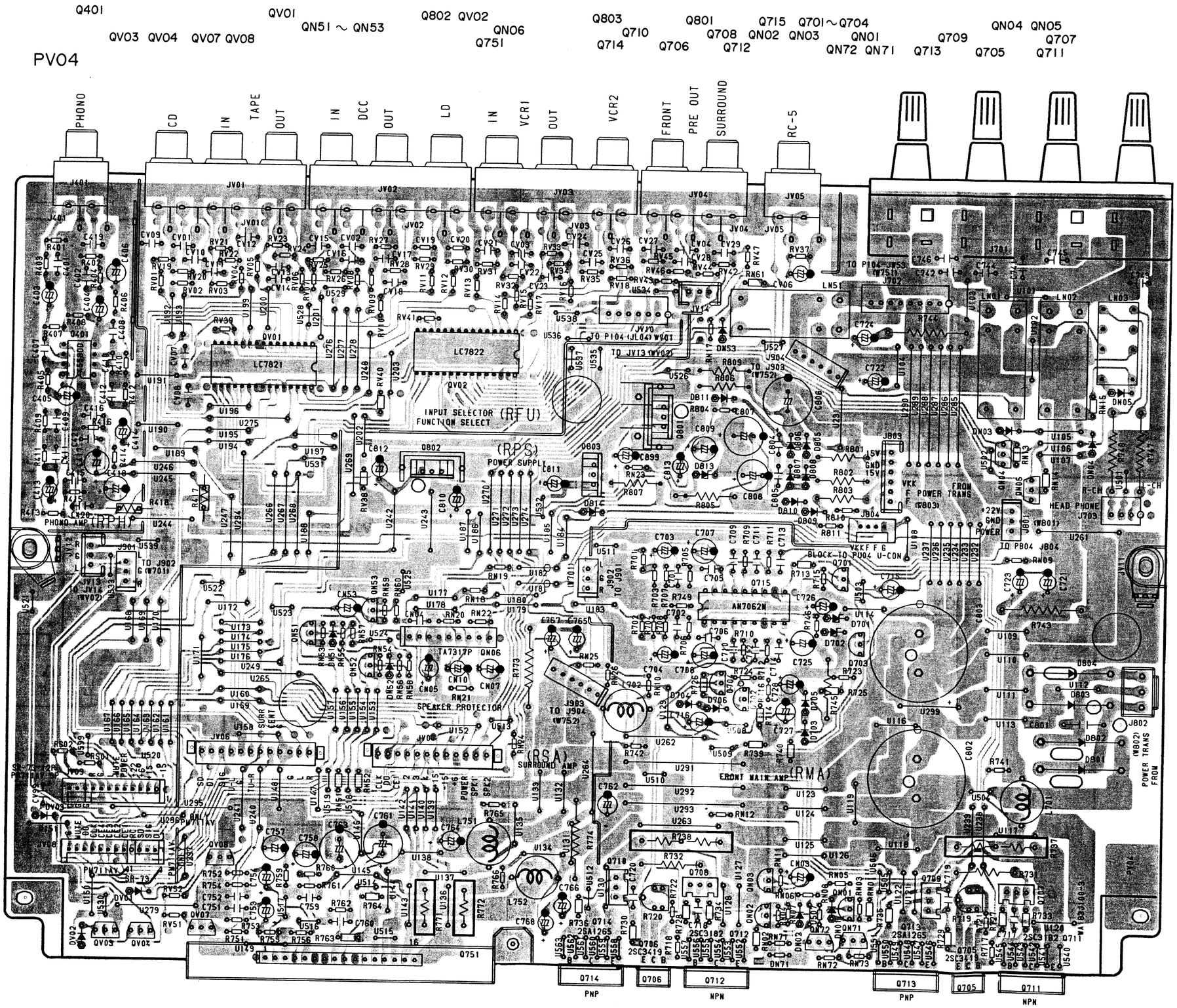
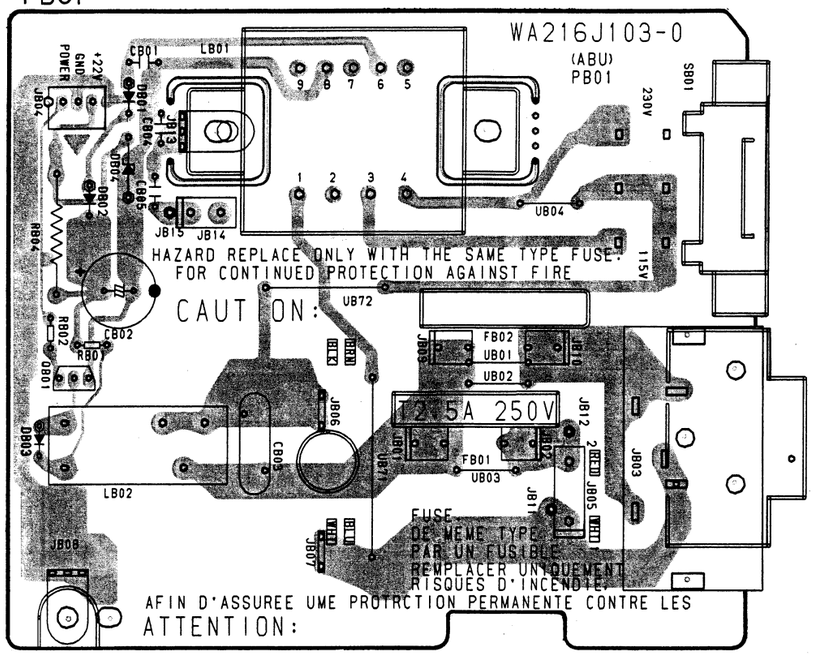


PV04

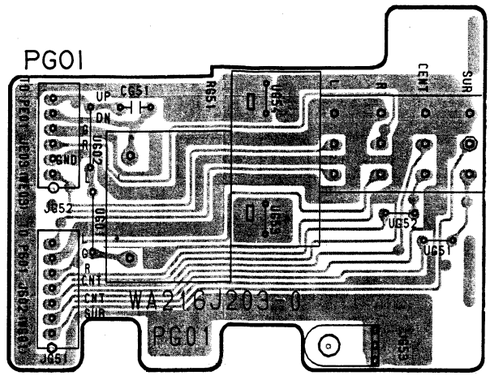

PHONO
CD
TAPE IN
TAPE OUT
DCC IN
DCC OUT
LD IN
VCR1 IN
VCR1 OUT
VCR2
FRONT
PRE OUT
SURROUND
RC-5
LC7821
LC7822
INPUT SELECTOR (RFU)
FUNCTION SELECT
(RPS)
POWER SUPPLY
PHONO AMP (RPH)
SPEAKER PROTECTOR
TA7317P
SURROUND AMP (RSA)
FRONT MAIN AMP (RMA)
AN7062N
FROM POWER TRANS (WB03)
HEAD PHONE J703
POWER TRANS FROM (WB02)
BLOCK TO PB04 U-CON
TO PB04 JB04
PNP
NPN
PNP
NPN

QB01

PB01



PG01



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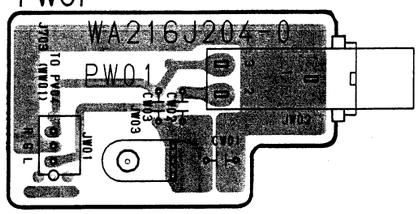
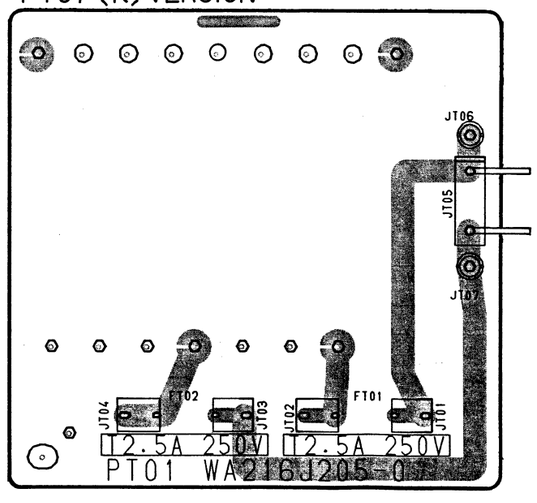
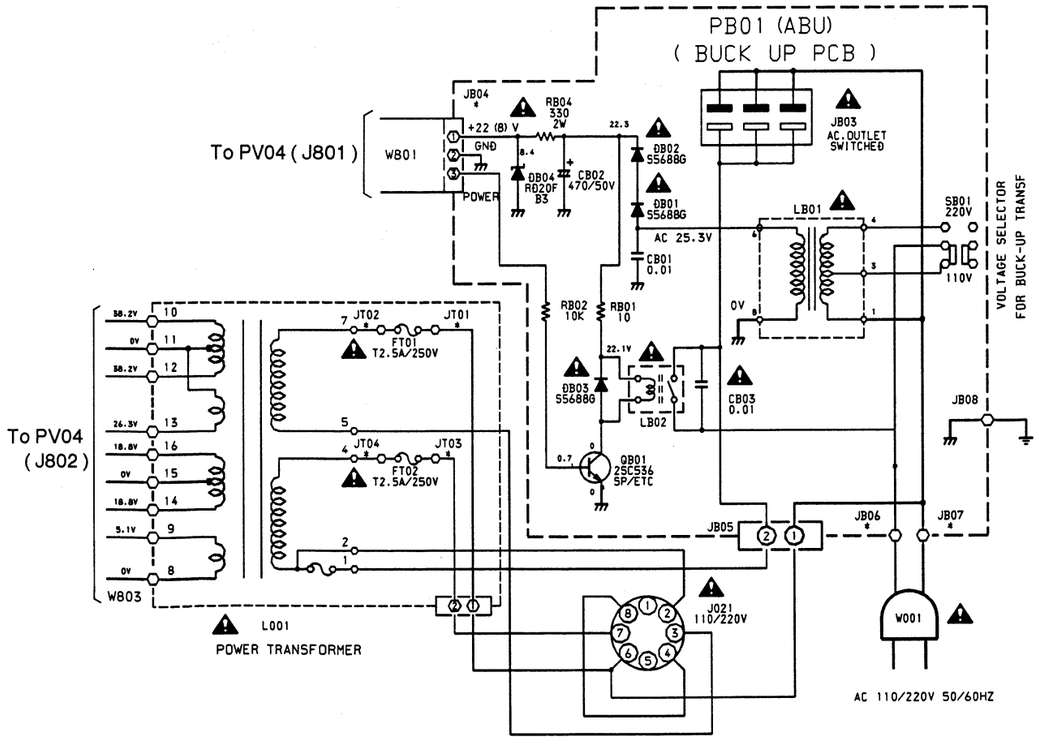


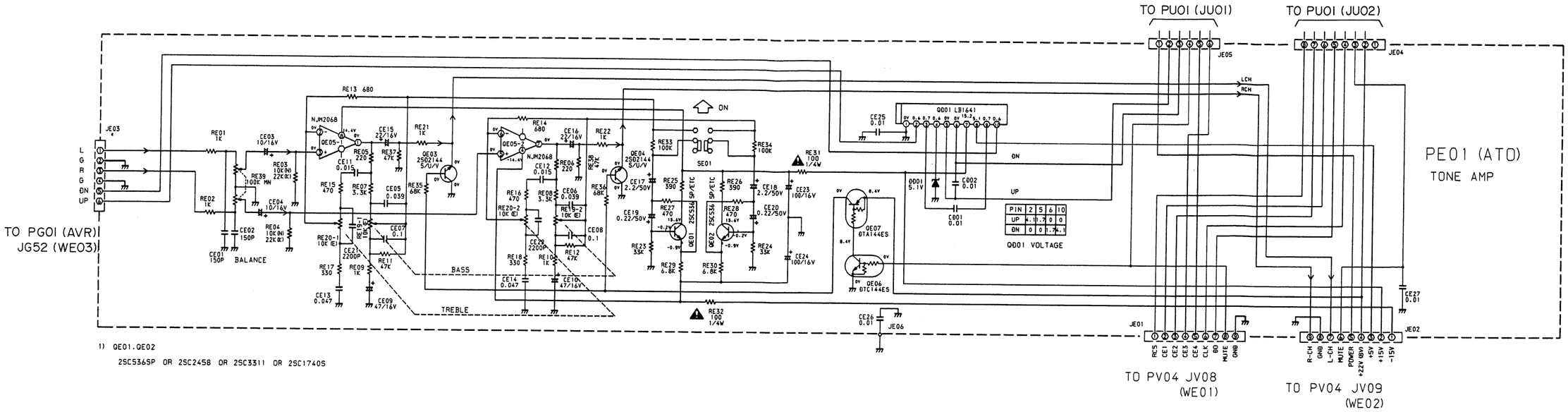
PT01 (K) VERSION



NOTE ON SAFETY :
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



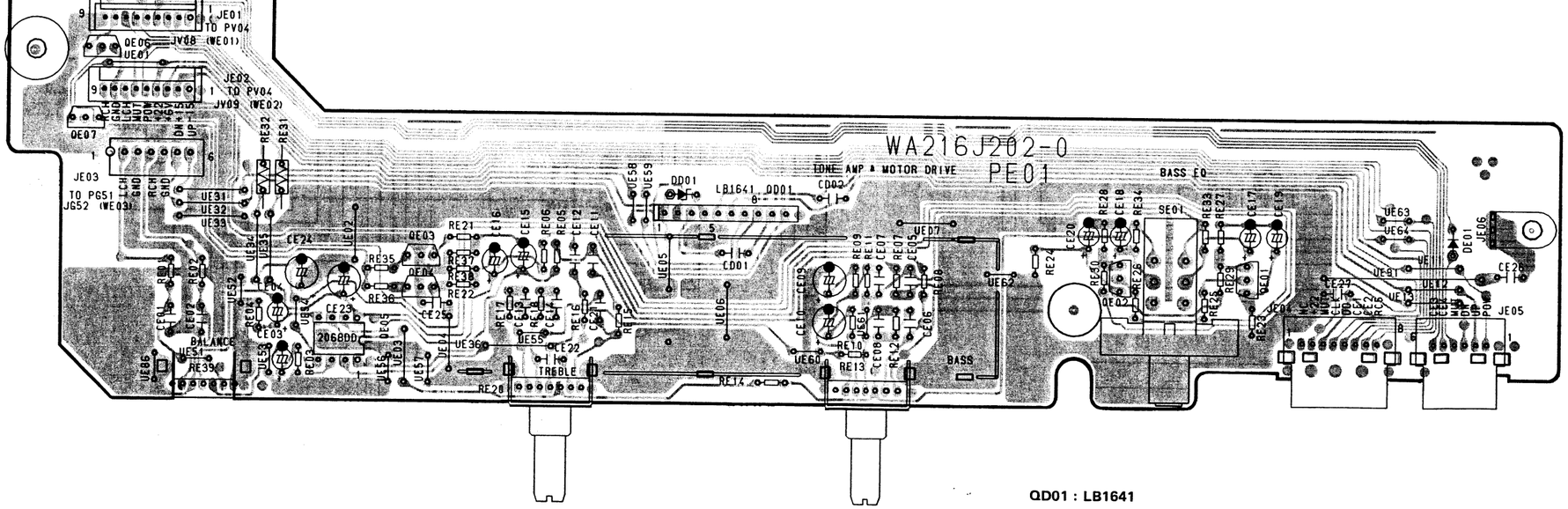
[K] VERSION



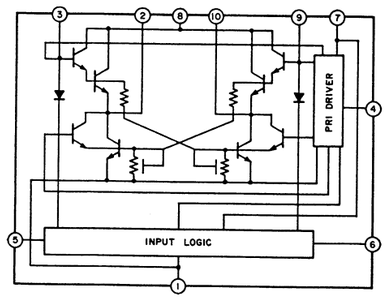
1) QE01.QE02
2SC5365P OR 2SC2458 OR 2SC3311 OR 2SC1740S

QE07 QE06 QE05 QE03 QE04 QD01 QE02 QE01

PE01

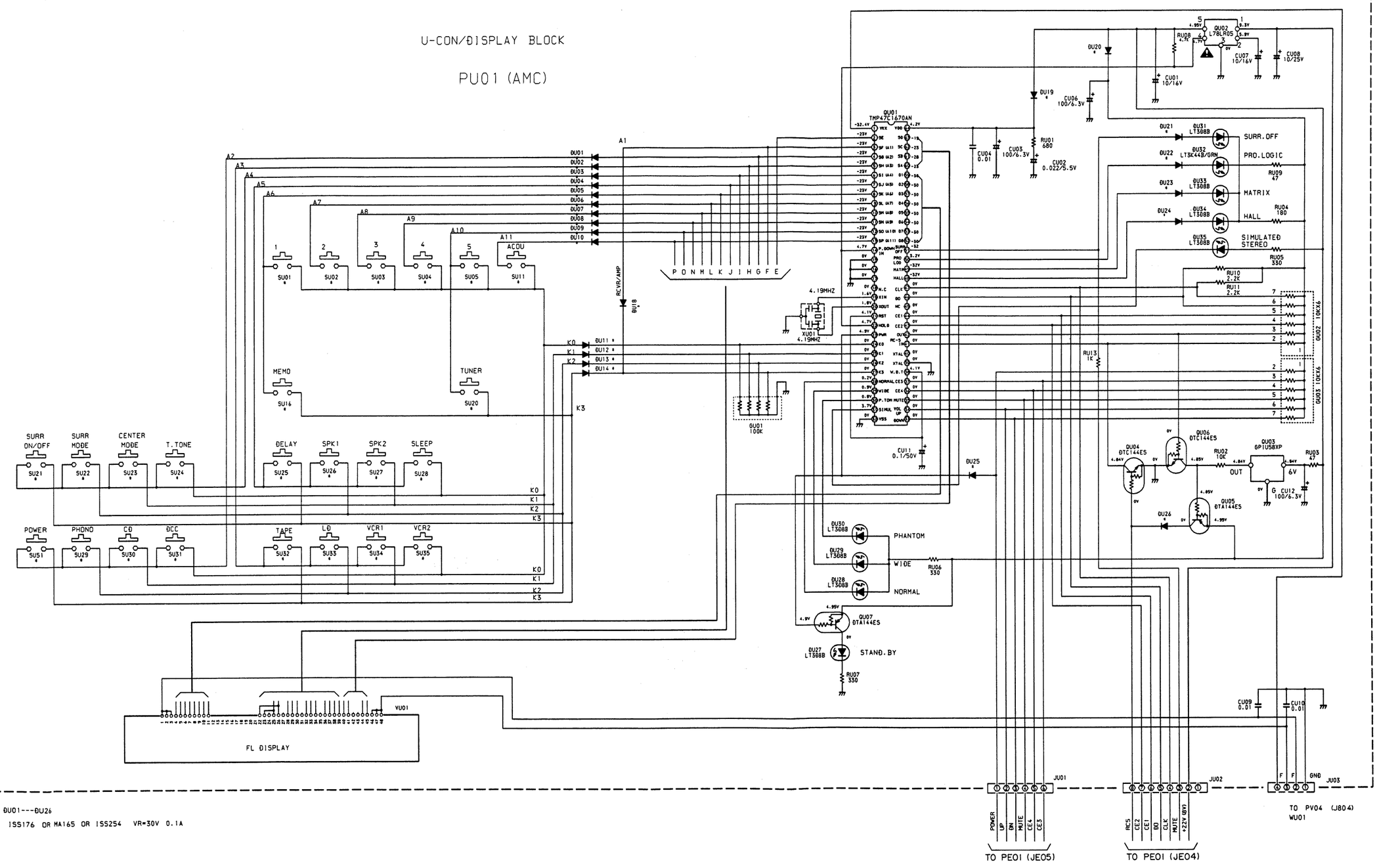


QD01 : LB1641



U-CON/DISPLAY BLOCK

PU01 (AMC)



1) DU01---DU26
ISS176 OR MA165 OR ISS254 VR=30V 0.1A

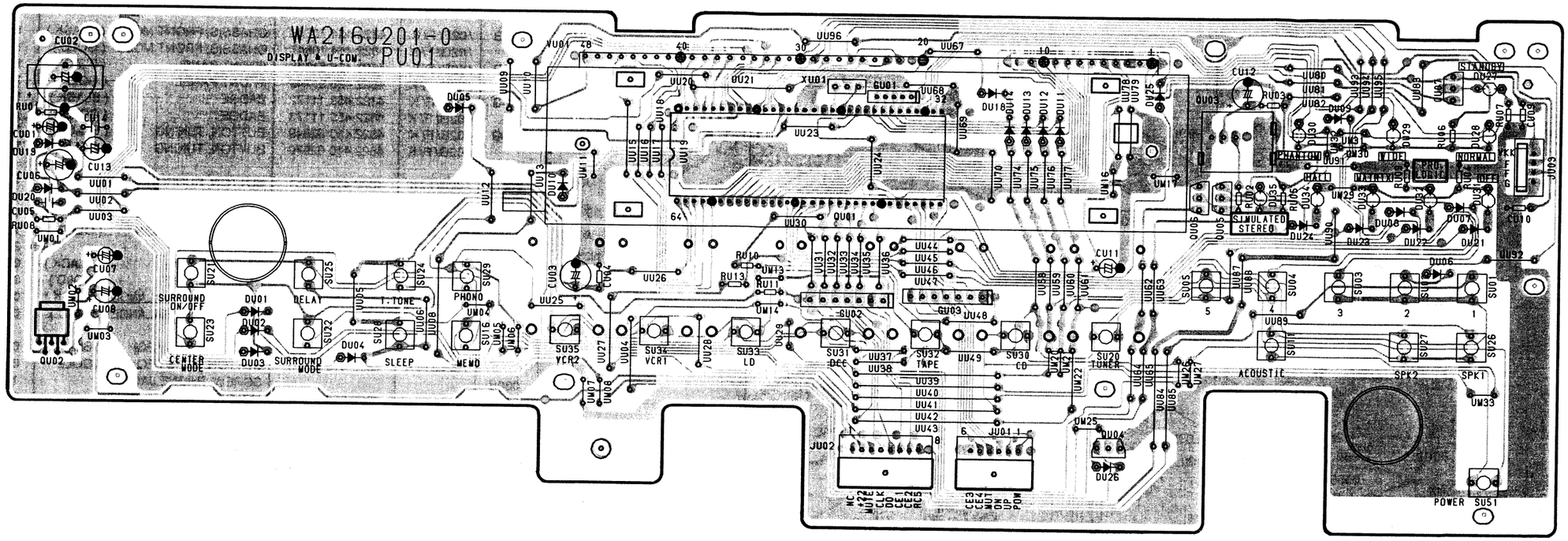
QU02

PU01

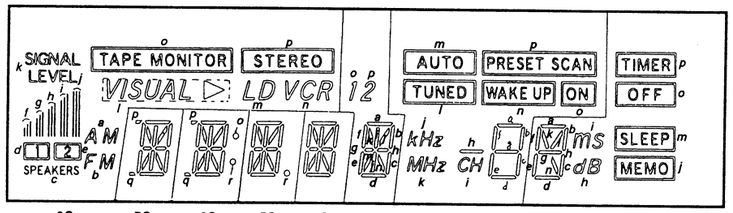
QU01

QU04 QU03 QU06 QU05

QU07



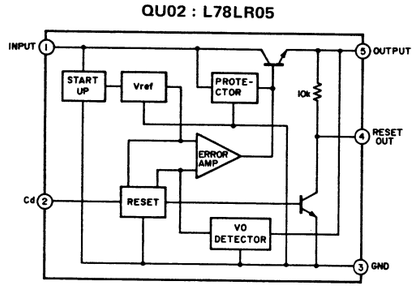
VU01 : FIP7JM9



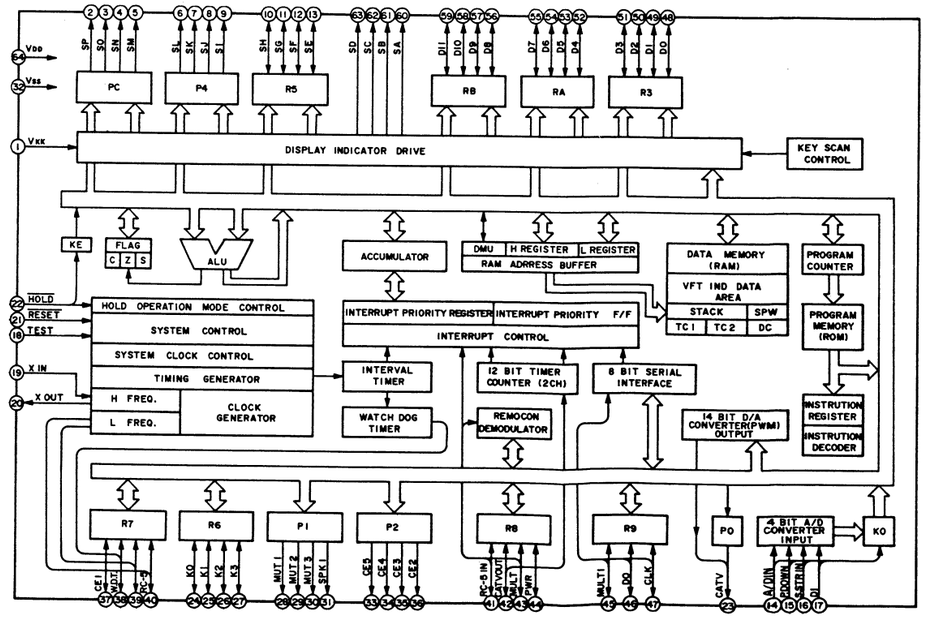
8G 7G 6G 5G 4G 3G 2G 1G

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	~	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Code	F1	F1	F1	8G	7G	6G	5G	4G	3G	2G	1G	NP	~	NP	*r*	*q*	NC	*p*	*o*	NC	*n*	*m*	*l*	NC	*k*	*j*	*i*	NC	*h*	*g*	*f*	*e*	*d*	*c*	NC	NC	*b*	*a*	F2	F2	F2

QU02 : L78LR05

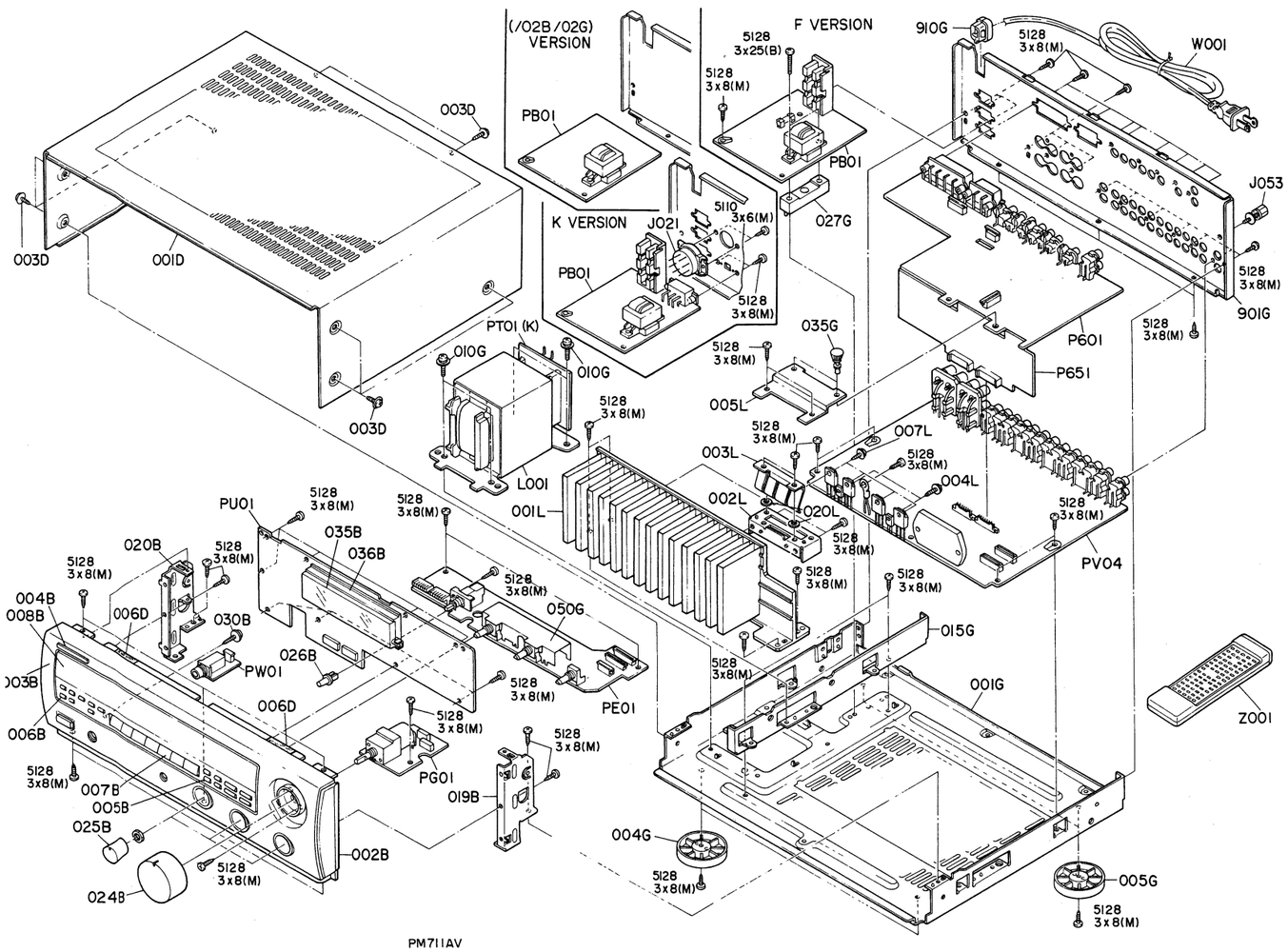


QU01 : TMP47C1670AN



4. EXPLODED VIEW AND PARTS LIST

[F] : for Japan
[K] : for Far East



PM711AV

POS.N0	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F / K)
002B	/02B/ F/ K	4822 464 70646	CHASSIS, FRONT MOLD (BLACK)	183J105030
	/02G/ F/ K	4822 464 70647	CHASSIS, FRONT MOLD (GOLD)	183J105130
003B	/02B/ F/ K	4822 426 51748	FRONT PANEL (BLACK)	183J248020
	/02G/ F/ K	4822 426 51749	FRONT PANEL (GOLD)	183J248120
004B	/02B/ F/ K	4822 459 11172	BADGE (BLACK)	185J251010
	/02G/ F/ K	4822 459 11173	BADGE (GOLD)	185J251110
005B	/02B/ F/ K	4822 410 62849	BUTTON, TUNING (BLACK)	183J270020
	/02G/ F/ K	4822 410 62879	BUTTON, TUNING (GOLD)	183J270120
006B	/02B/ F/ K	4822 410 62851	BUTTON, SURROUND (BLACK)	183J270030
	/02G/ F/ K	4822 410 62881	BUTTON, SURROUND (GOLD)	183J270130
007B	/02B/ F/ K	4822 410 63302	BUTTON, FUNCTION (BLACK)	183J270050
	/02G/ F/ K	4822 410 63303	BUTTON, FUNCTION (GOLD)	183J270150
008B		4822 450 62267	WINDOW	216J158010
024B	/02B/ F/ K	4822 413 41679	KNOB, VOLUME (BLACK)	063J154080
	/02G/ F/ K	4822 413 41683	KNOB, VOLUME (GOLD)	063J154190
025B	/02B/ F/ K	4822 413 41678	KNOB, TONE / BALANCE (BLACK)	025J154080
	/02G/ F/ K	4822 413 41682	KNOB, TONE / BALANCE (GOLD)	025J154190
026B	/02B/ F/ K	4822 410 60343	BUTTON, BASS / EQ (BLACK)	058J270030
	/02G/ F/ K	4822 410 62867	BUTTON, BASS / EQ (GOLD)	058J270230
030B			SCREW, PHONE JACK	183J010010
035B		4822 256 92097	HOLDER, FL	183J271020
036B		4822 459 10942	STICKER, FL	056J122020
003D		4822 502 12511	B.T. SCREW (W / W) M3 X 8	51260308M0
004G		4822 462 42045	LEG, FRONT	183J057010
005G		4822 462 42048	LEG, REAR	183J057110
010G			SCREW	216J010010
910G		4822 532 60948	BUSHING, AC CORD	450H259010
004L		4822 502 13851	B.T. SCREW (W / W) M3 X 15	51260315M0
007L		4822 502 13851	B.T. SCREW (W / W) M3 X 15	51260315M0
020L		4822 532 21181	FLAT WASHER, P.	54020301A0
⚠ J021	K		VOLTAGE SELECTOR	BY05080060
J053		4822 290 40297	TERMINAL, GND	YL03010280
⚠ L001	F		POWER TRANSFORMER	TS18626150
	/02	4822 146 21786	POWER TRANSFORMER	
	K		POWER TRANSFORMER	TS18626080
⚠ W001	F/K		A.C. POWER CORD	YC01900140
	/02	4822 321 10428	A.C. POWER CORD	
001S	F		PACKING CASE (BLACK)	216J801010
	F		PACKING CASE (GOLD)	216J801020
002S	F		CUSHION (R)	183J809010
003S	F		CUSHION (L)	183J809020
001T	F		USER MANUAL	216J851110
	K/02	4822 736 22089	USER MANUAL	216J851310
003T	F		POLYETHYLEN BAG	9012540010
004T	F		WARRANTY CARD	9631000150
B001	F		BATTERY, UM-3EN x 2	ZF23302000
Z001		4822 218 10549	UNIT K, REMOTE (RC711AV)	ZK216J0010
Z002	K		JACK, AC ADAPTOR	YJ04001240

5. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
ACVTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble Shooting
DCVTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjust level of primary power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

6. IDLING CURRENT ADJUSTMENT

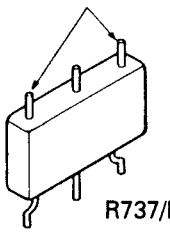
(1) Before switching the power ON, set the Master Volume control to the minimum position and the Balance and Tone controls to the center positions. Then, rotate the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 fully clockwise.
(2) Connect a digital voltmeter, set for the DC voltage input to the pertinent test points (the marked ones of R737-R738) on the PC board PV04. (Positive: Left side, Negative: Right side)
(3) After the completion of the above setup.
Switch the power ON and adjust the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 according to the reading of the digital voltmeter. The setting values are 7 mV (19 mA) of the both channels.

Please refer to the table below.

Power ON

30 sec. ~ 1 min.	4 mV
1 ~ 2 min. later	5 mV
More than 5 min.	7 mV

Measurement point



R737/R738

◘ アイドリング電流調整手順

1) 電源を投入しない状態で、マスターボリュームを最小、バランスボリューム、トーンボリュームをそれぞれ中央クリック位置にセッティングします。また、プリント基板(PV04)内の半固定抵抗R719 (Lch)、R720 (Rch) をそれぞれ反時計方向に絞り切った状態にしておきます。
2) プリント基板 (PV04) 内のセメント抵抗R737 (Lch用)、R738 (Rch用) の両端端子にデジタルボルトメータを接続します。
3) 上記の設定が完了した後、アイドリング電流の調整を、次の様に行ないます。
電源を投入し、プリント基板PV04内の半固定抵抗R719 (Lch)、R720 (Rch) を時計方向に廻して、デジタルボルトメータの指示を7mV (19mA)に合わせます。なおこの設定値は、電源投入後5分の値です。

7. CIRCUIT DESCRIPTION

1. Input Selector

- Input selector
  The function of this circuit is to select between the components connected to the rear panel. The circuit uses an LC7821 IC (QV01) and LC7822 IC (QV02), which is serially controlled by the microprocessor (QU01).

2. Surround Block

- The surround block consists of a buffer amplifier, phase shifter, Dolby Pro Logic decoder and its controller, and digital delay and surround mode switches.
- Buffer amplifier
  The stereo signal is first input into this buffer amplifier (QF01), which provides a 0 dB gain at all frequencies. After passing through the amplifier, the signal is distributed to the various blocks.
- Phase shifter and adder
  Here the phase of the signal from low range to high range frequencies is shifted. First, the L/R signals are input to the QM02-2 and the L-R (phase difference component) signal is extracted. This L-R signal passes through the phase shifter (QM03, QM04) and then enters the matrix circuit (QM01). Here the L-R signal is applied in reverse phase to the L signal and in same phase to the R signal. These signals then become the front L and R signals for the MATRIX and HALL surround modes. The adder (QM02-1) produces an L+R signal which is used as the surround signal in the HALL surround mode and as the L channel signal in SIMULATED STEREO mode.
- Dolby Pro Logic decoder
  This circuit uses a Pro Logic decoder to decode a Dolby-encoded signal into four signals for the front left, front right, center and surround channels. The IC used is an NJM2177L (Q601). This circuit operates together with center mode control.
  This IC has 2-channel and 3-channel modes in addition to the Dolby Pro Logic 4-channel mode, but in this unit the IC is used for 4-channel operation only. (See the Q601 Function Table.) Also, the center mode is controlled by the NJU3711 (Q603) and TC9214P (Q604).

The signal output from the buffer amplifier (QF01) is input to the L and R input pins of the Dolby Pro Logic decoder (Q601, pins 15 and 22). The front L and R channel signals decoded here are then output from pins 32 and 33 of Q601 and input to the surround mode selector (QM05). These signals are then output as the front L and R channel signals whenever the unit is set to Dolby surround mode. In the same way, the center signal is output from pin 38 of Q601 and input to the CENTER volume (QG02).
The surround signal is output from pin 39 of Q601, input to the surround mode selector (QM05), and then sent to the digital delay circuit (Q602). After the signal is applied with a delay in this circuit, it is returned to the Q601 and input to the Dolby B decoder circuit. The signal is then output from pin 29 of Q601 as the final surround signal. After that, the signal passes through QM05 and enters the SURROUND volume (QG02).
There are three center modes—NORMAL, PHANTOM and WIDE. Control of these modes is carried out by the TC9214P (Q604), which is in turn controlled by the port expander NJU3711 (Q603). The center mode control signal from the microprocessor is input as serial data from pins 43, 46 and 47 of QU01 to pins 8, 9 and 10 of Q603 to set each of Q603's ports to H or L. The control pins of the analog switch (Q604) connected to these ports turn the internal switches ON/OFF to control the Q601's center mode. (See the Q601 Function Table.) When the center mode is set to NORMAL, the center channel signal's low-frequency component is output to the front L and R channels. In PHANTOM mode, since no center speaker is used, the entire center channel signal is distributed to the front L and R channels. The Q603, in addition to controlling the center mode, also carries out control of the Q601 noise sequencer and speaker system 1 and 2. The noise sequencer functions to generate the signal used to adjust the balance of each channel in Dolby Pro Logic mode. When the TEST TONE switch is pressed ON, the noise sequencer outputs pink noise to each channel in sequence at 1.5-second intervals in the order: L → CENTER → R → SURROUND → L. (See the Q601 Function Table.)

NJM2177L (Q601) Function Table

NOISE SEQUENCER

PIN NAME	NOISE-CNT-E	NOISE-CNT-A	NOISE-CNT-B
PIN No.	PIN 23	PIN 24	PIN 25
SIGNAL SELECT	H	X	X
NOISE L	L	L	L
NOISE C	L	L	H
NOISE R	L	H	L
NOISE S	L	H	H

OPERATION MODE

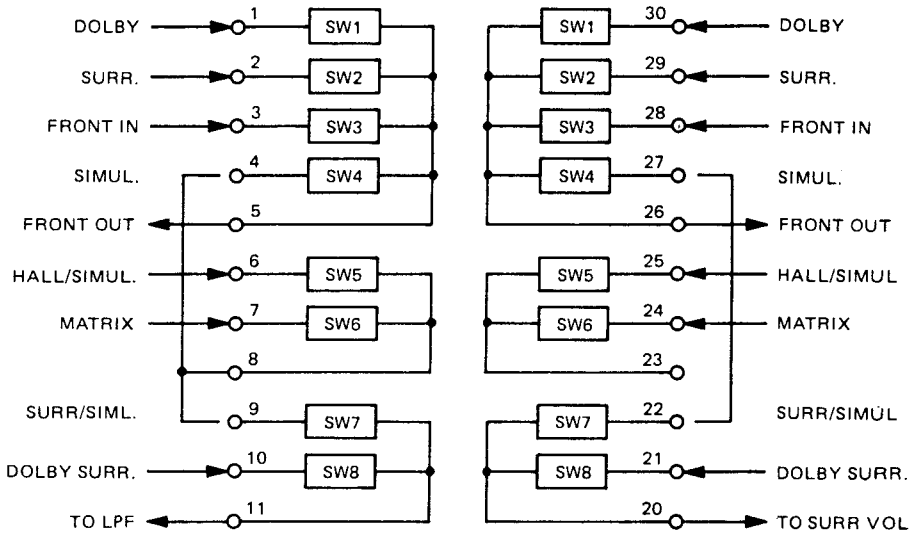
PIN NAME	MODE-CNT	
PIN No.	PIN 31	Note
2CH (Lt, Rt, S')	L	S' = Lt-Rt or NOISE
3CH (L, C, R, S')	High Z	S' = Lt-Rt or NOISE
4CH (L, C, R, S', S)	H	

CENTER MODE

PIN NAME	CENTER-CNT	CENTER-MODE
PIN No.	PIN 30	PIN 36
CENTER OFF	L	X
NORMAL	H	0.22 μF
PHANTOM	H	OPEN
WIDEBAND	H	10 μF

- Digital delay
  This circuit uses the NJU9701 (Q602) to add a time delay to the surround channel signal when a surround mode is selected, and is controlled by the microprocessor.
  10 kHz active filters (L.P.F.) are placed on both the input side and output side of the delay circuit. Each filter has a gain of –9.4 dB and 4.4 dB. The delay times used for the various modes are as follows:
  DOLBY: 15 ~ 30 ms, MATRIX/HALL/SIMULATED: 2 ~ 33 ms.
  Initial delay settings are as follows:
  DOLBY/MATRIX/HALL: 20 ms, SIMULATED: 10 ms

- Surround mode selector
  The LC7821 (QM05) is used for the surround mode selector, which switches the surround modes in the following sequence:
  OFF → DOLBY → MATRIX → HALL → SIMULATED



LC7821 (QM05) Function Table

SURROUND SELECTOR	SWITCH No.							
	1	2	3	4	5	6	7	8
OFF	0	0	1	0	X	X	X	X
DOLBY	1	0	0	0	0	0	0	1
MATRIX	0	1	0	0	0	1	1	0
HALL	0	1	0	0	1	0	1	0
SIMULATED STEREO	0	0	0	1	1	0	1	0

0 = SWITCH OFF
1 = SWITCH ON
X = DON'T CARE

3. Master Volume

- The master volume (RG01) is a motor-driven quadruple potentiometer for controlling the volume of the front left, front right, center and surround channels. Control of the motor is carried out by the LB1641 (QD01). QD01 is a motor drive IC with pins 5 and 6 used for input and pins 2 and 10 used for output.

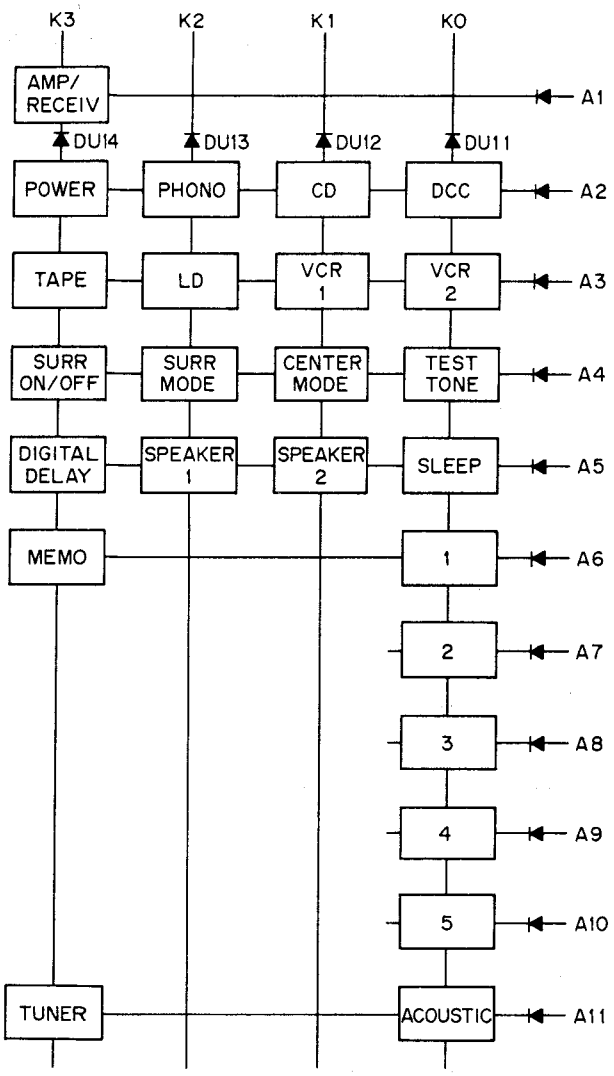
LB1641 (QD01) Function Table

Volume	Input		Output	
	6	5	2	10
UP	L	H	H	L
DOWN	H	L	L	H
STOP	L	L	L	L

QD01 is controlled by the NJU3711 (Q603). Q603 is controlled by serial data from the microprocessor.

4. Center/Surround Volume

- Electronic potentiometers (TC9213P) are used for the center channel and surround channel volume (QG02). One potentiometer consists of an element for varying the volume in 10 dB steps and an element for varying the volume in 1 dB steps. Buffer amplifiers (QG01, NJM4558DD) are located between the elements.



Description of keys

A: Diode switch for initial setting

AMP/ RECEIV : This switch is used for switching between the amp mode and receiver mode. The unit is in the amp mode when the switch is pressed to ON.

● Initial setup recall operation: The initial setup is recalled Switch the power ON, short-circuit between jumper wire UU78 (RESET) and UU79 (GND) on PU01 for about one second.

B: Momentary and lock switches (These switches are basically momentary switches unless otherwise specified.)

1 ~ 5 : Keys for use in inputting numbers in the ACOUSTIC preset number entry.

SLEEP : Sleep timer mode key for to set or turn ON/OFF the sleep timer.

MEMO : Key for use in setting the acoustic memory, sleep timer, etc. As the operation differs depending on the modes, refer to the description of each operation for details.

POWER : Key for turning the power of the set ON/OFF. This is a non-lock switch which turns power ON/OFF in an alternate cycle. When the power is OFF, all of the output ports except for some special ports are in the low level, but specified input ports and the remote control input ports are accessible. The details will be described in the description of each item.

SURR ON/OFF : Surround mode ON/OFF key. Press to turn ON/OFF in an alternate cycle. The initial condition is OFF.

SURR MODE : Surround mode select key. The initial condition is PRO LOGIC, and further press of the key switches to MATRIX, HALL, SIMULATED STEREO and to PRO LOGIC again.

CENTER MODE : Center mode setting key for use in PRO LOGIC mode. The initial condition is NORMAL, and further press of the key switches to WIDE, PHANTOM and NORMAL again.

SPEAKER 1 SPEAKER 2 : Speaker system select keys. The initial conditions are OFF (with ports LO), and each press switches ON/OFF in an alternate cycle. These keys are controlled by NJU3711D, and the corresponding ports are turned ON/OFF accordingly. The conditions of these keys are also backed up by the last memory function.

TEST TONE : When the surround mode is PRO LOGIC, this key puts the Surround IC to the test tone mode. The actual control is performed by the port expander IC (NJU3711D).

PHONO CD VCR 1 VCR 2 TAPE DCC LD TUNER : Input selector keys, which output the corresponding serial data.

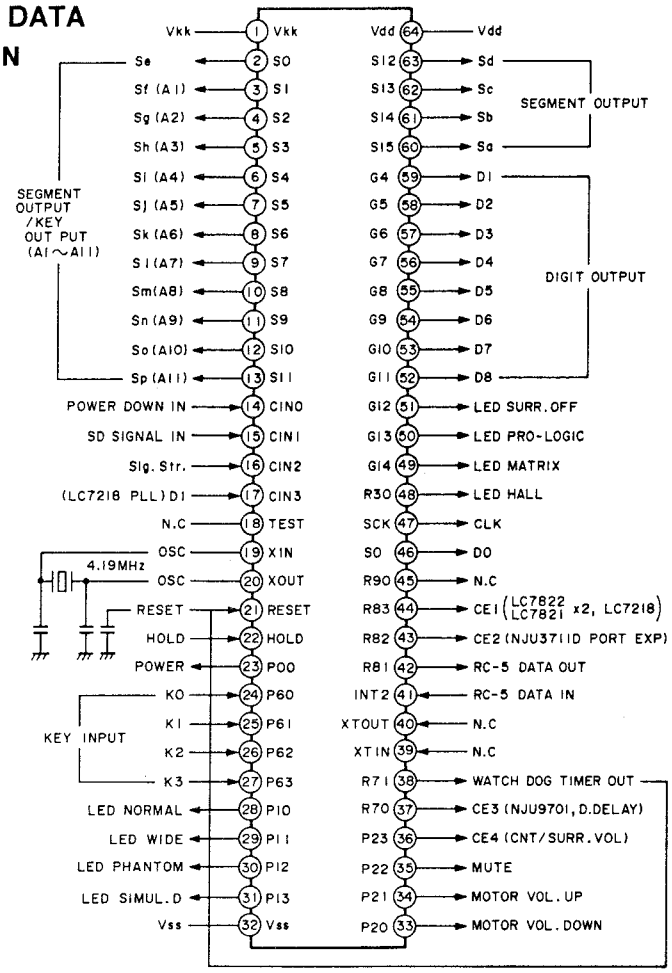
DIGITAL DELAY : When the surround mode is ON, this key sets the delay time for each surround mode.

ACOUSTIC : The combinations of the surround modes, center modes and volume levels can be stored in five memories and recalled in the acoustic mode.

* The functions of the keys are as described above. Except in the special case (service mode), if more than one key is pressed, the key pressed first is given the priority.

8. MICROPROCESSOR DATA

QU01 : TMP47C1670AN



Pin Nbr.	Pin Name	I/O	Active	Function	Pin Nbr.	Pin Name	I/O	Active	Function
1	V_{KK}	—	—	-35V (FL Display Drive)	33	P20 (VR DOWN)	O	H	M. Volume Control
2	Se (S0)	O	H	FL e-segment	34	P21 (VR UP)	O	H	M. Volume Control
3	Sf (S1)	O	H	FL f-segment/Key Switch (A1)	35	P22 (MUTE)	O	H	Mute Output
4	Sg (S2)	O	H	FL g-segment/Key Switch (A2)	36	P23 (CE4)	O	H/L	Center/Surround Volume Chip Enable
5	Sh (S3)	O	H	FL h-segment/Key Switch (A3)	37	R70 (CE3)	O	L	Digital Delay Chip Enable
6	Si (S4)	O	H	FL i-segment/Key Switch (A4)	38	R71 (WTO)	O	L	Watch-Dog Timer
7	Sj (S5)	O	H	FL j-segment/Key Switch (A5)	39	R72 (XTAL)	—	—	N.C
8	Sk (S6)	O	H	FL k-segment/Key Switch (A6)	40	R73 (XTAL)	—	—	
9	Sl (S7)	O	H	FL l-segment/Key Switch (A7)	41	R80 (RC-5 IN)	I	L	Remote Control (RC-5) Input
10	Sm (S8)	O	H	FL m-segment/Key Switch (A8)	42	R81 (RC-5 OUT)	O	H	Remote Control (RC-5) Output
11	Sn (S9)	O	H	FL n-segment/Key Switch (A9)	43	R82 (CE2)	O	L	Port Expander Chip Enable
12	So (S10)	O	H	FL o-segment/Key Switch (A10)	44	R83 (CE1)	O	H	Analog Switch/PLL Chip Enable
13	Sp (S11)	O	H	FL p-segment/Key Switch (A11)	45	R90 (N.C)	—	—	N.C
14	POW. DOWN	I	L	Power Down: L	46	SO (DO)	O	H	Serial Data
15	SD IN	I	L	SD Signal Input	47	SCK (CLK)	O	H	Serial Clock
16	SIG. IN	I	H	Signal Strength Indicator	48	R30 (LED HALL)	O	H	Surround Mode
17	DI	I	H	Serial Data Input	49	G14 (LED MTRX)	O	H	Surround Mode
18	TEST	—	—	N.C	50	G13 (LED PRO)	O	H	Surround Mode
19	X IN	—	—	Clock (4.19 MHz)	51	G12 (LED OFF)	O	H	Surround Mode
20	X OUT	—	—		52	G11 (D8)	O	H	Digit Output D8 Digit
21	RESET	I	L	Reset and Watch-Dog Timer	53	G10 (D7)	O	H	Digit Output D7 Digit
22	HOLD	I	L	Hold Mode	54	G9 (D6)	O	H	Digit Output D6 Digit
23	P00 (POWER)	O	H	Relay Drive Output	55	G8 (D5)	O	H	Digit Output D5 Digit
24	P60 (K0)	I	H	Key Switch	56	G7 (D4)	O	H	Digit Output D4 Digit
25	P61 (K1)	I	H		57	G6 (D3)	O	H	Digit Output D3 Digit
26	P62 (K2)	I	H		58	G5 (D2)	O	H	Digit Output D2 Digit
27	P63 (K3)	I	H		59	G4 (D1)	O	H	Digit Output D1 Digit
28	P10 (LED NORM)	O	L	Cent. Mode: Normal	60	S15 (Sa)	O	H	FL Display a-segment
29	P11 (LED WIDE)	O	L	Cent. Mode: Wide	61	S14 (Sb)	O	H	FL Display b-segment
30	P12 (LED PHTM)	O	L	Cent. Mode: Phantom	62	S13 (Sc)	O	H	FL Display c-segment
31	P13 (LED SIML)	O	L	Surr. Mode: Simulated	63	S12 (Sd)	O	H	FL Display d-segment
32	V_{SS}	—	—	GND	64	V_{DD}	—	—	V_{DD}

9. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R*** : (1) GD05 x x x 140, Carbon film fixed resistor, ±5% 1/4W
R*** : (2) GD05 x x x 160, Carbon film fixed resistor, ±5% 1/6W

① —— Resistance value

Examples ;
① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C*** : CERAMIC CAP.
(1) DD1x x x x 370, Ceramic capacitor
Disc type
Temp.coeff.P350~N1000,50V
① ② — Capacity value
Tolerance

Examples
①Tolerance (Capacity deviation)
±0.25pF ... 0
±0.5pF ... 1
±5% ... 5
* Tolerance of COMMON PARTS handled here are as follows :
0.5pF~ 5pF...±0.25pF
6pF~ 10pF...±0.5pF
12pF~ 560pF...±5%
②Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561

C*** : CERAMIC CAP.
(1) DK16 x x x 300, High dielectric constant ceramic capacitor
Disc type
Temp.chara. 2B4, 50V
① — Capacity value

Examples
②Capacity value

100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

C*** : ELECTROLY CAP.(⏚), FILM CAP.(⏤)
(1) EA x x x x x x 10, Electrolytic capacitor
One-way lead type, Tolerance ±20%
① ② — Working voltage
Capacity value

Examples
①Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...118
		2200μF...228

②Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

(2) DF15 x x x 350, Plastic film capacitor
One-way type, Mylar ±5% 50V
① — Capacity value

Examples
①Capacity value

0.001μF(1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

NOTE : The above CODES (R***,R***,C***,C*** and C***) are omitted on the schematic diagram in some case.
On the occasion, be confirmed the common parts on the parts list.

NOTE ON SAFETY FOR FUSIBLE RESISTOR:
The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	RF25S x x x x ΩJ	(±5% 1/4W)
NH05 x x x 120	RF50S x x x x ΩJ	(±5% 1/2W)
NH85 x x x 110	RF73B2A x x x x ΩJ	(±5% 1/10W)
NH95 x x x 140	RF73B2E x x x x ΩJ	(±5% 1/4W)

* Resistance value — Resistance value(0.1-10kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No.	Type No.	Description
NF05 x x x 140	ERD-2FCJ x x x	(±5% 1/4W)
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	(±2% 1/4W)
RF02 x x x 140		

* Resistance value — * Resistance value

Examples;
* Resistance value

0.1Ω.....001	10Ω.....100	1kΩ.....102	100kΩ.....104
0.5Ω.....005	18Ω.....180	2.7kΩ.....272	680kΩ.....684
1Ω.....010	100Ω.....101	10kΩ.....103	1MΩ.....105
6.8Ω.....068	390Ω.....391	22kΩ.....223	4.7MΩ.....475

[F] : for Japan
[K] : for Far East

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F/ K)
			PB01-BACK UP TRANF / OUTLET CIRCUIT BOARD	
			PB01-CAPACITORS	
CB01		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
⚠CB03		4822 122 33276	CERAMIC 0.01μF ±20%	DK17103840
CB04	/ 02	4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	
CB05	/ 02	4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	
			PB01-CAPACITORS (COMMON)	
C***			ELECTROLYTIC CAPACITOR, ±20% : CB02	
			PB01-RESISTORS	
RB04		4822 053 11331	330 Ω ±5% 2W	GA05331020
			PB01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RESISTOR, ±5% 1/6W : RB01, RB02	
			PB01-SEMICONDUCTORS	
⚠DB01		4822 130 80839	DIODE S5688G	HD20029050
⚠DB02		4822 130 80839	DIODE S5688G	HD20029050
⚠DB03		4822 130 80839	DIODE S5688G	HD20029050
DB04		4822 130 83395	ZENER RD20F B3 20V	HD32001060
QB01		4822 130 42298	TRANSISTOR 2SC536SP / 2SC2458 / 2SC3311	HT30001000
			PB01-MISCELLANEOUS	
⚠FB01	/ 02	4822 070 32001	FUSE T2.0A 250V	
	F		FUSE 5.0A 125V	FS10500350
⚠JB03	F/ K		JACK, AC OUTLET	YJ04002030
⚠LB01	F		POWER TRANSFORMER, BUCK-UP 100V	TS13516100
	K		POWER TRANSFORMER, BUCK-UP 115/ 230V	TS13516050
	/ 02	4822 146 21757	POWER TRANSFORMER, BUCK-UP 230V	
⚠LB02	F/ K		RELAY VS24MB-NR	LY10240240
	/ 02	4822 280 20534	RELAY G5P-1	
SB01	K		SLIDE SWITCH, VOLTAGE SELECTOR	SS02021240
			PE01--TONE AMP / BALANCE VOLUME CIRCUIT BOARD	
			PE01-CAPACITORS	
CD01		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CD02		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CE03		4822 124 21894	ELECT 10μF 16V	EJ10601610
CE04		4822 124 21894	ELECT 10μF 16V	EJ10601610
CE09		4822 124 23056	ELECT 47μF 16V	EJ47601610
CE10		4822 124 23056	ELECT 47μF 16V	EJ47601610
CE15		4822 124 23055	ELECT 22μF 16V	EJ22601610
CE16		4822 124 23055	ELECT 22μF 16V	EJ22601610
CE17		4822 124 40786	ELECT 2.2μF 50V	EJ22505010
CE18		4822 124 40786	ELECT 2.2μF 50V	EJ22505010
CE19		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
CE20		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
CE25		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CE26		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CE27		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
			PE01-CAPACITORS (COMMON)	
C***			HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR, ±10% 50V : CE01, CE02, CE21, CE22	
C***			ELECTROLYTIC CAPACITOR, ±20% : CE23, CE24	
C***			PLASTIC FILM CAPACITOR, ±5% 50V : CE05~CE08, CE11~CE14	
			PE01-RESISTORS	
RE19		4822 101 21242	10K Ω (E), VARIABLE BASS	RM01030910
RE20		4822 101 21242	10K Ω (E), VARIABLE TREBLE	RM01030910
RE31		4822 050 21021	100 Ω ±5% 1/4W	GG05101140
RE32		4822 050 21021	100 Ω ±5% 1/4W	GG05101140
RE39		4822 100 12064	100K Ω (MN), VARIABLE BALANCE	RM01041560

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F/K)
			PE01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RESISTOR, ±5% 1/6W : RE01~RE18, RE21~RE30, RE33~RE38	
			PE01-SEMICONDUCTORS	
DD01		4822 130 80317	ZENER RD5.1JB2 / MTZJ5.1B	HD30511000
QD01		4822 209 30193	IC LB1641	HC10279030
QE01		4822 130 42298	TRANSISTOR 2SC536SP / 2SC2458 / 2SC3311	HT30001000
QE02		4822 130 42298	TRANSISTOR 2SC536SP / 2SC2458 / 2SC3311	HT30001000
QE03		4822 130 61892	TRANSISTOR 2SD2144S (U, V)	HT421442A0
QE04		4822 130 61892	TRANSISTOR 2SD2144S (U, V)	HT421442A0
QE05		4822 209 73064	IC NJM2068DD	HC10053090
QE06		4822 130 42594	TRANSISTOR, DIGITAL DTC144ES / UN4213	BA20002000
QE07		4822 130 42682	TRANSISTOR, DIGITAL DTA144ES / UN4113	BA10002000
			PE01-MISCELANEOUS	
SE01		4822 276 13449	PUSH SWITCH, BASS EQ	SP02012090
			PG01-MASTER VOLUME CIRCUIT BOARD	
CG51		4822 122 30043	CERAMIC CAP. 0.01μF +80% -20% 50V	DK18103310
RG71		4822 100 20881	VARIABLE RESISTOR 100K Ω (B) X 4 MOTOR	RY01040260
			PT01-TRANSFORMER CIRCUIT BOARD	
FT01	K		FUSE T2.5A 250V	FS10250850
FT02	K		FUSE T2.5A 250V	FS10250850
			PU01-U-PROCESSOR / SWITCH CIRCUIT BOARD	
			PU01-CAPACITORS	
CU01		4822 124 22318	ELECT 10μF 16V	EG10601650
CU02		4822 124 23295	BIG ELECT 0.022μF 5.5V	EX22300510
CU03		4822 124 80651	ELECT 100μF 6.3V	EG10700650
CU04		4822 122 40586	CERAMIC 0.01μF ±20% 16V	DA17103110
CU06		4822 124 80651	ELECT 100μF 6.3V	EG10700650
CU07		4822 124 22318	ELECT 10μF 16V	EG10601650
CU08		4822 124 80774	ELECT 10μF 25V	EG10602550
CU09		4822 122 40586	CERAMIC 0.01μF ±20% 16V	DA17103110
CU10		4822 122 40586	CERAMIC 0.01μF ±20% 16V	DA17103110
CU11		4822 124 41604	ELECT 0.1μF 50V	EG10405010
CU12		4822 124 80651	ELECT 100μF 6.3V	EG10700650
			PU01-RESISTORS	
GU01		4822 111 91399	100K Ω X 4, ARRAY	BW05104080
GU02		4822 111 92152	10K Ω X 6, ARRAY	BW05103230
GU03		4822 111 92152	10K Ω X 6, ARRAY	BW05103230
			PU01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RESISTOR, ±5% 1/6W : RU01~RU13	
			PU01-SEMICONDUCTORS	
DU01 ~ DU14		4822 130 33305	DIODE 1SS176 / MA165 / 1SS254	HD20002000
DU18 ~ DU26		4822 130 33305	DIODE 1SS176 / MA165 / 1SS254	HD20002000
DU27 ~ DU31		4822 130 80326	L.E.D. LT3D8B (RED)	HL10062320
DU32		4822 130 81715	L.E.D. LT3K44B (GRN)	HI10095320
DU33		4822 130 80326	L.E.D. LT3D8B (RED)	HI10062320
DU34		4822 130 80326	L.E.D. LT3D8B (RED)	HI10062320
DU35		4822 130 80326	L.E.D. LT3D8B (RED)	HI10062320
QU01		4822 209 32698	MICROPROCESSOR TMP47C1670AN-H074	HU10086050
⚠ QU02		4822 209 32697	IC L78LR05	HC10317030
QU03		4822 214 52009	PHOTO UNIT GP1U58XP	HW10026320
QU04		4822 130 42594	TRANSISTOR, DIGITAL DTC144ES / UN4213	BA20002000
QU05		4822 130 42682	TRANSISTOR, DIGITAL DTA144ES / UN4113	BA10002000
QU06		4822 130 42594	TRANSISTOR, DIGITAL DTC144ES / UN4213	BA20002000
QU07		4822 130 42682	TRANSISTOR, DIGITAL DTA144ES / UN4113	BA10002000

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION					PART NO. (FOR F/K)
			PU01-MISCELLANEOUS					
SU01 ~ SU05		4822 276 20508	PUSH SWITCH					SP01011280
SU11		4822 276 20508	PUSH SWITCH					SP01011280
SU16		4822 276 20508	PUSH SWITCH					SP01011280
SU20 ~ SU35		4822 276 20508	PUSH SWITCH					SP01011280
SU51		4822 276 20508	PUSH SWITCH, POWER / STANDBY					SP01011280
VU01		4822 130 91278	DISPLAY UNIT, FIP7JM9					HQ30810060
XU01		4822 242 72194	CERAMIC RESONATOR, 4.19MHZ					FQ04194020
			PV04-FUNC / MAIN / SUPP / SPK CIRCUIT BOARD					
			PV04-CAPACITORS					
CN03		4822 124 23055	ELECT	22µF			16V	EJ22601610
CN04		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
CN10		4822 124 23053	ELECT	1µF			50V	EJ10505010
CN53		4822 124 23055	ELECT	22µF			16V	EJ22601610
			ELECT	10µF			16V	
CV01 ~ CV04		4822 122 40617	CERAMIC	0.1µF	+80%	-20%	50V	DK38104010
CV06		4822 124 21894	ELECT	10µF			16V	EJ10601610
CV07		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
CV08		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
CV19	/02	4822 126 10408	CERAMIC	220PF	±10%			
CV20	/02	4822 126 10408	CERAMIC	220PF	±10%			
C403		4822 124 21894	ELECT	10µF			16V	EJ10601610
C404		4822 124 21894	ELECT	10µF			16V	EJ10601610
C405		4822 124 23055	ELECT	22µF			16V	EJ22601610
C406		4822 124 23055	ELECT	22µF			16V	EJ22601610
C413		4822 124 21894	ELECT	10µF			16V	EJ10601610
C414		4822 124 21894	ELECT	10µF			16V	EJ10601610
C419		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
C420		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
C421		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
C703		4822 124 21894	ELECT	10µF			16V	EJ10601610
C704		4822 124 21894	ELECT	10µF			16V	EJ10601610
C705		5322 122 32072	CERAMIC	33PF	±5%		50V	DD15330300
C706		5322 122 32072	CERAMIC	33PF	±5%		50V	DD15330300
C711		4822 126 10797	CERAMIC	10PF	±0.5PF		500V	DD11100560
C712		4822 126 10797	CERAMIC	10PF	±0.5PF		500V	DD11100560
C713		4822 122 40367	CERAMIC	7PF	±0.5PF		50V	DD11070300
C714		4822 122 40367	CERAMIC	7PF	±0.5PF		50V	DD11070300
⚠C717 ~ ⚠C720		5322 122 32265	CERAMIC	100PF	±5%		500V	DD15101560
C721 ~ C724		4822 124 21895	ELECT	0.22µF			50V	EJ22405010
C726		4822 124 21894	ELECT	10µF			16V	EJ10601610
C727		4822 124 80649	ELECT	10µF			100V	EJ10610010
C728		4822 124 80649	ELECT	10µF			100V	EJ10610010
C741 ~ C744	/02	4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	
C753		4822 124 21894	ELECT	10µF			16V	EJ10601610
C754		4822 124 21894	ELECT	10µF			16V	EJ10601610
C759		4822 122 31188	CERAMIC	3PF	±0.25PF		50V	DD10030300
C760		4822 122 31188	CERAMIC	3PF	±0.25PF		50V	DD10030300
C761		4822 124 23626	ELECT	100µF			63V	EA10706310
C762		4822 124 80649	ELECT	10µF			100V	EA10610010
C763		4822 124 23626	ELECT	100µF			63V	EA10706310
C764		4822 124 80649	ELECT	10µF			100V	EA10610010
C765 ~ C768		4822 124 21895	ELECT	0.22µF			50V	EJ22405010
C801		4822 126 12453	CERAMIC	0.01µF	+80%	-20%	500V	DK18103560
⚠C802		4822 124 80646	ELECT	8200µF			56V	EB82805650
⚠C803		4822 124 80646	ELECT	8200µF			56V	EB82805650
C804		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310
C805		4822 122 30043	CERAMIC	0.01µF	+80%	-20%	50V	DK18103310

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F/K)
C810		4822 124 21894	ELECT 10μF 16V	EJ10601610
C811		4822 124 21894	ELECT 10μF 16V	EJ10601610
C812		4822 124 21894	ELECT 10μF 16V	EJ10601610
C813		4822 124 40786	ELECT 2.2μF 50V	EJ22505010
C***			**PV04-CAPACITORS (COMMON)** HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR, ±10% 50V : (CV09~CV18 [/ 02]), (CV21~CV29 [/ 02]), C401, C402, (C407, C408 [/ 02]), C411, C412, C415, C416 C701, C702, C709, C710, C751, C752	
C***			ELECTROLYTIC CAPACITOR, ±20% : CN05, CN07, C417, C418, C707, C708, C725, C757, C758, C806~C809	
C***			PLASTIC FILM CAPACITOR, ±5% 50V : C409, C410	
			PV04-RESISTORS	
RN01		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
RN02		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
⚠ RN13		4822 052 10109	10 Ω ±5% 1/6W	GG05100160
⚠ RN14		4822 052 10109	10 Ω ±5% 1/6W	GG05100160
⚠ RN15		4822 052 10109	10 Ω ±5% 1/6W	GG05100160
RN51		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
RN52		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
⚠ RN61		4822 052 10109	10 Ω ±5% 1/6W	GG05100160
RV38		4822 111 31001	330 Ω ±5% 1/6W	GG05331160
RV40		4822 111 31001	330 Ω ±5% 1/6W	GG05331160
R417		4822 050 21021	100 Ω ±5% 1/4W	GG05101140
R418		4822 050 21021	100 Ω ±5% 1/4W	GG05101140
R713		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R714		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R719		4822 100 11386	1K Ω, TRIMMING	RA01020780
R720		4822 100 11386	1K Ω, TRIMMING	RA01020780
R725 ~ R730		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R731		4822 053 10221	220 Ω ±5% 1W	GA05221010
R732		4822 053 10221	220 Ω ±5% 1W	GA05221010
R733 ~ R736		4822 052 10109	10Ω ±5% 1/6W	GG05100160
R737		4822 116 82049	0.18 Ω X 2 3W	BZ10182010
R738		4822 116 82049	0.18 Ω X 2 3W	BZ10182010
R739		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R740		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R743		4822 053 11109	10 Ω ±5% 2W	GA05100020
R744		4822 053 11109	10 Ω ±5% 2W	GA05100020
R745		4822 053 10472	4.7K Ω ±5% 1W	GA05472010
R747		4822 053 11331	330 Ω ±5% 2W	GA05331020
R748		4822 053 11331	330 Ω ±5% 2W	GA05331020
R763		4822 052 10101	100 Ω ±5% 1/6W	GG05101160
R764		4822 052 10101	100 Ω ±5% 1/6W	GG05101160
R771		4822 113 80363	0.22 Ω ±10% 3W	GO10222030
R772		4822 113 80363	0.22 Ω ±10% 3W	GO10222030
R773		4822 053 11109	10 Ω ±5% 2W	GA05100020
R774		4822 053 11109	10 Ω ±5% 2W	GA05100020
⚠ R801		4822 116 60306	1 Ω ±5% 1/2W, FUSIBLE	NH05010120
⚠ R802		4822 116 60306	1 Ω ±5% 1/2W, FUSIBLE	NH05010120
⚠ R803		4822 116 60306	1 Ω ±5% 1/2W, FUSIBLE	NH05010120
⚠ R805		4822 116 60297	56 Ω ±5% 1/2W, FUSIBLE	NH05560120
⚠ R806		4822 116 60312	4.7 Ω ±5% 1/2W, FUSIBLE	NH05047120
⚠ R807		4822 117 10204	47 Ω ±5% 1/2W, FUSIBLE	NH05470120
⚠ R809		4822 116 60312	4.7 Ω ±5% 1/2W, FUSIBLE	NH05047120
R***			**PV04-RESISTORS (COMMON)** CARBON FILM FIXED RESISTOR, ±5% 1/6W : RN03~RN12, RN17~RN26, RN53~RN60, RN71, RN72, RN73, RS01, RS02, (RV03, RV04 [/ 02]), RV05, RV06, RV09, RV10, RV15, RV16, RV19~RV37, RV39, RV41, (RV43, RV44, RV47 [/ 02]), RV51, RV52, R401~R416, R701~R712, R715~R718, R721~R724, R741, R742, R746, R749, R751~R756, R759~R762, R765, R766, R804, R810, R811	

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION		PART NO. (FOR F/K)
			PV04-SEMICONDUCTORS		
DN01		4822 130 80837	DIODE	HSS81TD	HD20027010
DN02		4822 130 80837	DIODE	HSS81TD	HD20027010
DN03		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
DN04		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
DN05		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
DN51		4822 130 80837	DIODE	HSS81TD	HD20027010
DN52		4822 130 80837	DIODE	HSS81TD	HD20027010
DN53		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
DN71		4822 126 90007	VARISTOR	PTH9M04BC222TS	HP00033240
DV02		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
DV03		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
D701		4822 130 80273	ZENER	RD8.2JB2 / MTZJ8.2C	HD30821000
D702		4822 130 80322	ZENER	RD15JB3 / MTZJ15A	HD31501000
D703 ~ D706		4822 130 33305	DIODE	1SS176 / MA165 / 1SS254	HD20002000
⚠ D801 ~ ⚠ D804		4822 130 33864	DIODE	30D-2	HD20003010
⚠ D805 ~ ⚠ D811		4822 130 80839	DIODE	S5688G	HD20029050
D813		4822 130 81729	ZENER	MTZJ33D	HD33301000
D814		4822 130 80273	ZENER	RD8.2JB2 / MTZJ8.2C	HD30821000
⚠ QN01		4822 130 43233	TRANSISTOR	2SC2240 (GR, BL)	HT322402A0
⚠ QN02		4822 130 43233	TRANSISTOR	2SC2240 (GR, BL)	HT322402A0
⚠ QN03		4822 130 42951	TRANSISTOR	2SA970 (GR, BL)	HT109702A0
⚠ QN04		4822 130 43313	TRANSISTOR	2SC3312 (R, S)	HT333122A0
⚠ QN05		4822 130 43313	TRANSISTOR	2SC3312 (R, S)	HT333122A0
⚠ QN06		4822 209 83312	IC	TA7317P	HC10042050
⚠ QN51		4822 130 43233	TRANSISTOR	2SC2240 (GR, BL)	HT322402A0
⚠ QN52		4822 130 43233	TRANSISTOR	2SC2240 (GR, BL)	HT322402A0
⚠ QN53		4822 130 42951	TRANSISTOR	2SA970 (GR, BL)	HT109702A0
QN71		4822 130 60766	TRANSISTOR, DIGITAL	DTA114ES / UN4111	BA10001000
QN72		4822 130 61892	TRANSISTOR	2SD2144S (U, V)	HT421442A0
QV01		4822 209 72748	IC	LC7821	HC10228030
QV02		4822 209 73321	IC	LC7822	HC10241030
QV03		4822 130 42594	TRANSISTOR, DIGITAL	DTC144ES / UN4213	BA20002000
QV04		4822 130 42682	TRANSISTOR, DIGITAL	DTA144ES / UN4113	BA10002000
QV07		4822 130 61892	TRANSISTOR	2SD2144S (U, V)	HT421442A0
QV08		4822 130 61892	TRANSISTOR	2SD2144S (U, V)	HT421442A0
Q401		4822 209 83631	IC	NJM4558DD	HC10008090
⚠ Q701		4822 130 42999	TRANSISTOR	2SA1145 (O, Y)	HT111452A0
⚠ Q702		4822 130 42999	TRANSISTOR	2SA1145 (O, Y)	HT111452A0
⚠ Q703		4822 130 43283	TRANSISTOR	2SC2705 (O, Y)	HT327052A0
⚠ Q704		4822 130 43283	TRANSISTOR	2SC2705 (O, Y)	HT327052A0
⚠ Q705		4822 130 60117	TRANSISTOR	2SC3419	HT334191Y0
⚠ Q706		4822 130 60117	TRANSISTOR	2SC3419	HT334191Y0
Q707		4822 130 62335	TRANSISTOR	2SD2033 (E)	HT420331E0
Q708		4822 130 62335	TRANSISTOR	2SD2033 (E)	HT420331E0
Q709		4822 130 62334	TRANSISTOR	2SB1353 (E)	HT213531E0
Q710		4822 130 62334	TRANSISTOR	2SB1353 (E)	HT213531E0
Q711		4822 130 43306	TRANSISTOR	2SC3182 (R, O)	HT331822A0
Q712		4822 130 43306	TRANSISTOR	2SC3182 (R, O)	HT331822A0
Q713		4822 130 43019	TRANSISTOR	2SA1265 (R, O)	HT112652A0
Q714		4822 130 43019	TRANSISTOR	2SA1265 (R, O)	HT112652A0
Q715		4822 209 83732	IC	AN7062N	HC10066020
⚠ Q751		4822 209 32696	IC	STK401-110	HC10312030
⚠ Q801		4822 209 83317	IC	NJM7815FA	HC38915090
⚠ Q802		4822 209 31631	IC	NJM7805FA	HC38905090
⚠ Q803		4822 209 31864	IC	NJM7915FA	HC39915090
			PV04-MISCELLANEOUS		
⚠ LN01		4822 280 70354	RELAY	24MBU-510	LY20240310
⚠ LN02		4822 280 70354	RELAY	24MBU-510	LY20240310
⚠ LN03		4822 280 20501	RELAY	MR62-24SR	LY20240410
⚠ LN51		4822 280 70354	RELAY	24MBU-510	LY20240310
L701		4822 157 70022	AIR COIL, CHOKE		ML08010030
L702		4822 157 70022	AIR COIL, CHOKE		ML08010030
L751		4822 157 70022	AIR COIL, CHOKE		ML08010030
L752		4822 157 70022	AIR COIL, CHOKE		ML08010030

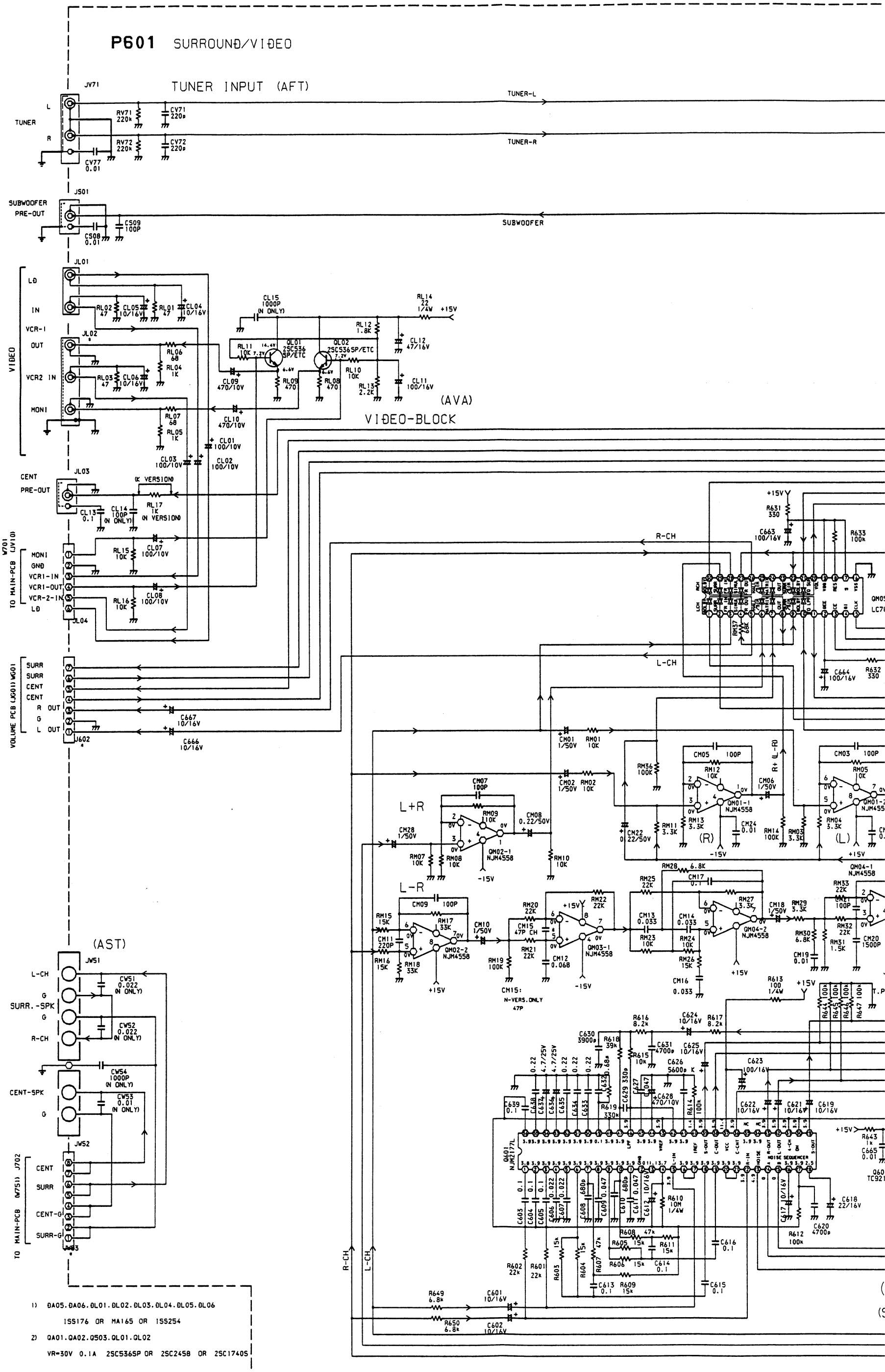
POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F / K)
JV01		4822 265 30457	TERMINAL, 6P RCA JACK	YT02060240
JV02		4822 265 30457	TERMINAL, 6P RCA JACK	YT02060240
JV03		4822 265 30457	TERMINAL, 6P RCA JACK	YT02060240
JV04		4822 265 30397	TERMINAL, 4P RCA JACK	YT02040610
JV05		4822 266 30274	TERMINAL, 2P RCA JACK	YT02020550
J401		4822 267 30741	TERMINAL, 2P RCA JACK	YT02020490
J701		4822 290 61179	TERMINAL, SPK	YT01080120
			PW01-HEADPHONE CIRCUIT BOARD	
			PW01-CAPACITOR	
CW01		4822 122 40617	CERAMIC 0.1μF 50V	DD38104010
C***			**PW01-CAPACITORS (COMMON)** HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR, ±10% 50V : (CW02, CW03 [/ 02])	
			PW01-MISCELLANEOUS	
JW02	/ 02B/ F/ K	4822 267 31691	JACK, HEADPHONE (BLK)	YJ01003870
	/ 02G/ F/ K	4822 267 31692	JACK, HEADPHONE (GLD)	YJ01003880
			P601-SURROUND / TUNER INPUT CIRCUIT BOARD	
			P601-CAPACITORS	
CL04		4822 124 21894	ELECT 10μF 16V	EJ10601610
CL05		4822 124 21894	ELECT 10μF 16V	EJ10601610
CL06		4822 124 21894	ELECT 10μF 16V	EJ10601610
CL13		4822 122 40617	CERAMIC 0.1μF +80% -20% 50V	DD38104010
CM01		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM02		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM04		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM06		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM08		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
CM10		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM15		4822 122 31205	CERAMIC 47PF ±5% 50V	DD15470300
CM18		4822 124 23053	ELECT 1μF 50V	EJ10505010
CM22		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
CM24		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CM27		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CM28		4822 124 23053	ELECT 1μF 50V	EJ10505010
CV81		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CW51	/ 02	4822 122 30103	CERAMIC 0.022μF +80% -20% 50V	
CW52	/ 02	4822 122 30103	CERAMIC 0.022μF +80% -20% 50V	
CW53	/ 02	4822 122 30103	CERAMIC 0.022μF +80% -20% 50V	
C601		4822 124 21894	ELECT 10μF 16V	EJ10601610
C602		4822 124 21894	ELECT 10μF 16V	EJ10601610
C612		4822 124 21894	ELECT 10μF 16V	EJ10601610
C617		4822 124 21894	ELECT 10μF 16V	EJ10601610
C618		4822 124 23055	ELECT 22μF 16V	EJ22601610
C619		4822 124 21894	ELECT 10μF 16V	EJ10601610
C621		4822 124 21894	ELECT 10μF 16V	EJ10601610
C622		4822 124 21894	ELECT 10μF 16V	EJ10601610
C624		4822 124 21894	ELECT 10μF 16V	EJ10601610
C625		4822 124 21894	ELECT 10μF 16V	EJ10601610
C636		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
C637		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
C640		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
C641		4822 124 21894	ELECT 10μF 16V	EJ10601610
C642		4822 124 21894	ELECT 10μF 16V	EJ10601610
C653		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
C656		4822 122 30043	CERAMIC 0.22μF +80% -20% 50V	DK18103310
C657		4822 124 21895	ELECT 0.22μF 50V	EJ22405010
C665		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
C666		4822 124 21894	ELECT 10μF 16V	EJ10601610
C667		4822 124 21894	ELECT 10μF 16V	EJ10601610

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F / K)
C***			**P601-CAPACITORS (COMMON)** HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR, ±10% 50V : (CL14, CL15 [/ 02]), CM03, CM05, CM07, CM09, CM11, CM20, (CM21 [/ 02]), CV71, CV72, (CW54 [/ 02]), C608, C610, C629, C645, C652, C661, C662	
C***			ELECTROLYTIC CAPACITOR, ±20% : CL01, CL02, CL03, CL07~CL12, C623, C628, C647, C655, C660, C663, C664,	
C***			PLASTIC FILM CAPACITOR, ±5% 50V : CM12, CM13, CM14, CM16, CM17, C603~C607, C609, C611, C613~C616, C620, C627, C632~C635, C638, C639, C646, C648~C650	
C***			PLASTIC FILM CAPACITOR, ±10% 50V : CM19, C626, C630, C631, C643, C644, C651, C654	
			P601-RESISTORS	
RL14		4822 050 22209	22 Ω ±5% 1/4W	GG05220140
R207		4822 116 83929	220 Ω ±5% 1/4W	GG05221140
R211		4822 100 11373	4.7K Ω, TRIMMING	RA04720780
R212		4822 100 11352	22K Ω, TRIMMING	RA02230780
R217		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
R512		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
R613		4822 115 90167	100 Ω ±2% 1/4W, FUSIBLE	NF02101140
R631		4822 111 31001	330 Ω ±5% 1/6W	GG05331160
R632		4822 111 31001	330 Ω ±5% 1/6W	GG05331160
R634		4822 052 10101	100 Ω ±5% 1/6W	GG05101160
R639		4822 052 10479	47 Ω ±5% 1/4W	GG05470140
R***			**P601-RESISTORS (COMMON)** CARBON FILM FIXED RESISTOR, ±5% 1/4W : R610	
R***			CARBON FILM FIXED RESISTOR, ±5% 1/6W : RL01~RL13, RL15, RL16, (RL17 [/ 02]). RM01~RM34, RM36, RM37, RV71, RV72, R601~R609, R611, R612, R614~R630, R633, R635~R638, R640~R647, R649, R650	
			P601-SEMICONDUCTORS	
QL01		4822 130 42298	TRANSISTOR 2SC536SP / 2SC2458 / 2SC3311	HT30001000
QL02		4822 130 42298	TRANSISTOR 2SC536SP / 2SC2458 / 2SC3311	HT30001000
QM01 ~ QM04		4822 209 83631	IC NJM4558DD	HC10008090
QM05		4822 209 72748	IC LC7821	HC10228030
Q601		4822 209 32693	IC NJM2177L	HC10126090
Q602		4822 209 32694	IC MJU7901D	HC10127090
Q603		4822 209 32695	IC NJU3711D	HC10128090
Q604		4822 209 73275	IC TC9214P	HC10209050
			P601-MISCELLANEOUS	
JL01		4822 267 31208	TERMINAL, 2P RCA JACK	YT02020880
JL02		4822 265 30627	TERMINAL, 3P RCA JACK	YT02030060
JL03		4822 290 81631	TERMINAL, 1P RCA JACK	YT02010380
JV71		4822 267 31796	TERMINAL, 2P RCA JACK	YT02020870
JW51	/ 02 F/ K	4822 290 60752	TERMINAL, 4P SPK SURROUND	
			TERMINAL, 4P SPK SURROUND	YT03040370
JW52		4822 290 81567	TERMINAL, 2P SPK CENTER	YT03020150
X601		4822 242 81525	CERAMIC RESONATOR CST2.00MG040	FQ02004030

POS.NO	VERSION	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR F/ K)
			P651-SURROUND BUFFER / VOLUME CIRCUIT BOARD	
			P651-CAPACITORS	
CF01		4822 124 23053	ELECT 1μF 50V	EJ10505010
CF02		4822 124 23053	ELECT 1μF 50V	EJ10505010
CG01 ~ CG04		4822 124 23053	ELECT 1μF 50V	EJ10505010
CG05 ~ CG10		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CG11		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CG12		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CG15		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CG16		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CG17		4822 124 21894	ELECT 10μF 16V	EJ10601610
CG18		4822 124 21894	ELECT 10μF 16V	EJ10601610
CG19		4822 124 21894	ELECT 10μF 16V	EJ10601610
CG20		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CG21		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
CS01		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CS03		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CS05		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CS08		4822 122 30043	CERAMIC 0.01μF +80% -20% 50V	DK18103310
C***			**P651-CAPACITORS (COMMON)** HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR, ±10% 50V : CF05, CF06, CG13, CG14, CS09	
C***			ELECTROLYTIC CAPACITOR, ±20% : CF03, CF04, CS06, CS07	
C***			PLASTIC FILM CAPACITOR, ±5% 50V : CS02, CS04	
			P651-RESISTORS	
RG15		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
RG16		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
RS11		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
RS12		4822 052 10221	220 Ω ±5% 1/6W	GG05221160
R***			**P651-RESISTORS (COMMON)** CARBON FILM FIXED RESISTOR, ±5% 1/6W : RF03~RF08, RG01~RG14, RG17~RG26, RS03~RS09, R641, R642	
			P651-SEMICONDUCTORS	
QF01		4822 209 83631	IC NJM4558DD	HC10008090
QG01		4822 209 83631	IC NJM4558DD	HC10008090
QG02		4822 209 31575	IC TC9213P	HC10304050
QG03		4822 209 83631	IC NJM4558DD	HC10008090
QG04		4822 209 83631	IC NJM4558DD	HC10008090
QS01		4822 209 83631	IC NJM4558DD	HC10008090
QS02		4822 130 61892	TRANSISTOR 2SD2144S (U, V)	HT421442A0
QS03		4822 130 42682	TRANSISTOR, DIGITAL DTA144ES / UN4113	BA10002000
QS04		4822 209 42594	TRANSISTOR, DIGITAL DTC144ES / UN4213	BA20002000
			P651-MISCELLANEOUS	
JS01		4822 290 81631	TERMINAL, 1P RCA JACK	YT02010380

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type),may increase risk of fire or electrical shock hazard.

PM711AV SCHEMATIC DIAGRAM



TUNER-L

TUNER-R

SUBWOOFER

RL14 22 1/4W +15V

CL12 47/16V

CL11 100/16V

(AVA)

DEO-BLOCK

CENT PRE-OUT

CENTER

SURR

SURR

CENTER

SURR.

R-CH

L-CH

+15V

R631 330

C663 100/16V

R633 100k

QM05 LC7821

RM37 4.4K 0.5%

C664 100/16V

R632 330

-15V

CENTER

CENT

CENTER

SURR

SURR O

CENT PRE-O

CENTER OUT

CE1

CE2

DATA

CLK

SPK1

SPK1

SPK2

SPK1

CM01 1/50V RM01 10K

CM02 1/50V RM02 10K

L+R

CM07 100P

RM09 110K

CM08 0.22/50V

CM28 1/50V

RM07 10K

RM08 10K

QM02-1 NJM4558

RM10 10K

-15V

RM36 100K

CM05 100P

RM12 10K

QM01-1 NJM4558

CM06 1/50V

R+ (L-R)

RM13 3.3K

CM24 0.01

(R)

RM14 100K

RM03 3.3K

CM03 100P

RM05 10K

QM01-2 NJM4558

CM04 1/50V

L- (L-R)

RM04 3.3K

CM27 0.01

(L)

RM06 100K

CM22 22/50V

RM11 3.3K

-15V

+15V

L-R

CM09 100P

RM17 33K

QM02-2 NJM4558

RM18 33K

+15V

CM10 1/50V

RM20 22K

CM15 47P CH

RM21 22K

CM12 0.068

RM19 100K

CM15: N-VERS.ONLY 47P

RM22 22K

+15V

QM03-1 NJM4558

-15V

RM25 22K

CM13 0.033

RM23 10K

RM28 6.8K

CM17 0.1

CM14 0.033

RM24 10K

RM26 15K

CM16 0.033

+15V

RM27 13.3K

QM04-2 NJM4558

CM18 1/50V

RM29 3.3K

RM30 6.8K

CM19 0.01

RM31 1.5K

RM32 22K

CM20 1500P

-15V

QM04-1 NJM4558

RM33 22K

CM21 100P

RM34 22K

J603

R613 100 1/4W

+15V

R644 100k

R645 100k

R646 100k

R647 100k

T.P

R635 100k

C660 100/16V

NOISE

C659 0.22/50V

R638 1k

C662 1000p

G (01)

A

F (CLK)

+5V

R634 100

B

NORMAL-H

WIDE-H

Q603 NJU3711

R616 8.2k

C624 10/16V

R617 8.2k

C630 3900p

R618 39k

R615 10k

C631 4700p

C625 10/16V

C626 5600p K

C623 100/16V

C629 330p

C627 .047

C628 470/10V

R614 100k

C622 10/16V

C621 10/16V

C619 10/16V

C641 10/16V

C640 0.22/50V

R619 330k

C639 0.1

C638 0.22

C634 4.7/25V

C635 4.7/25V

C636 0.22

C634 0.22

C633 0.22

C632 0.68p

+15V

R643 1k

C665 0.01

Q604 TC9214P

Q601 NJM2177L

C603 0.1

C604 0.1

C605 0.1

C606 0.022

C607 0.022

C608 680p

C609 0.047

C610 680p

C611 0.047

C612 10/16V

R610 10M 1/4W

C617 10/16V

C618 22/16V

C620 4700p

R612 100k

R608 47k

R605 15k

R611 15k

R606 15k

C614 0.1

C613 0.1

R609 15k

C616 0.1

C615 0.1

R602 22k

R601 22k

R603 15k

R604 15k

R607 47k

R649 6.8k

C601 10/16V

R650 6.8k

C602 10/16V

R621 8.2k

R622 8.2k

R623 39k

R624 5.6k

C647 47/16V

R636 100k

C651 4700p

R628 8.2k

R630 27k

C654 4700p

C653 0.22/50V

C643 4700p

C644 5600p K

C646 0.1

R627 8.2k

R629 8.2k

C650 0.1

C642 10/16V

C645 220p

R625 22

C648 0.22

C649 0.22

R626 22

C652 270p

+15V

-15V

R620 100k

C655 220/6.3V

Q602 NJU9701

R639 47 1/4W

C656 0.01

R637 1M

X601 2.00MHz

CE3

REQ

C661 1000p

R640 1k

CE3

+5V

+5V

CLK

DATA

(ASC)

(SURROUND CONTROL)

LCH

L+R

RCH

L-IN

R-IN

TUNER-L
TUNER-R

SUB WOOFER
(ASC)

P651

RS06 47K
CS06 100/16V
RS04 47K
RS11 220
CS04 0.033
CS02 0.033
RS08 1K
CS05 4.7/25V
RS05 47K
CS01 4.7/25V
RS07 47K
QS01-2 NJM4558DD
CS03 4.7/25V
QS01-1 NJM4558DD
RS03 47K
RS12 220
CS07 100/16V
RS09 10K
+22V (8V)
QS02 2SD2144 S/U/V
QS03 DTA144ES
MUTE
QS04 DTC144ES

+15V
RG15 220
RG05 10K
CG20 0.01
CG11 0.01
RG13 10K
CG13 560P
RG03 3.3K
QG01-1 NJM4558
CG05 4.7/25V
RG09 1K
SURR
RG14 8.2K
RG11 1K
QG03-1 NJM4558
CG09 4.7/25V
RG19 100K
RG01 330K
RG07 330K
RG17 100K
CG01 1/50V
CG03 1/50V
CG07 4.7/25V
QG02 TC9213P
CG04 1/50V
CG08 4.7/25V
RG20 100K
RG10 1K
CG02 1/50V
RG06 10K
CG14 560P
RG08 330K
CG06 4.7/25V
QG03-2 NJM4558
QG01-2 NJM4558
RG04 3.3K
RG02 330K
RG12 1K
CG21 0.01
CG12 0.01
CG10 4.7/25V
RG18 100K
RG16 220
-15V

CENT PRE-OUT
CENTER
SURR
SURR
CENTER
SURR
CENTER
-15V
SURR
CENTER
SURR
SURR OUT
CENT PRE-OUT
CENTER OUT
CE1
CE2
DATA
CLK
SPK2
SPK1

SURR.
CENT
CENTER
SURR
SURR OUT
CENT PRE-OUT
CENTER OUT
CE1
CE2
DATA
CLK
SPK1
SPK1

CG15 4.7/25V
CG17 10/16V
RG25 330
RG23 47K
QG04-1 NJM4558
RG21 22K(N) 47K(K)
CG16 4.7/25V
CG18 10/16V
RG26 330
QG04-2 NJM4558
RG22 22K(N) 47K(K)
RG24 47K

+22V (8V)
FRONT
MUTE
TUNER-L
G
TUNER-R
SURR. OUT
CENT OUT
G
GND
L
R
J606
TO MAIN-PCB (JV06)

CF02 1/50V
CF01 1/50V

CM04 1/50V
L-(L-R)
RM06 100K
RM34 22K
-15V
J603

R635 100k
C660 100/16V
C659 0.22/50V
NOISE
R638 1k
C662 1000p
G (01)
F (CLK)
A
+5V
R634 100
Q603 NJU3711
B
NORMAL-H
WIDE-H

C641 10/16V
C640 0.22/50V

R621 8.2k
R622 8.2k
R623 39k
R624 5.6k
C647 47/16V
C643 4700p
C644 5600p K
C646 0.1
C642 10/16V
C645 220p
R625 22
C648 0.22
C649 0.22
R636 100k
C651 4700p
R628 8.2k
C654 4700p
C653 0.22/50V
R630 27k
R627 8.2k
C650 0.1
R629 8.2k
R626 22
C652 270p
R620 100k
C655 220/6.3V
Q602 NJU9701
R639 47 1/4W
C656 0.01
R637 IN
X601 2.00MHz
C661 1000p
R640 1k
CE3
REQ
+5V
CLK
DATA

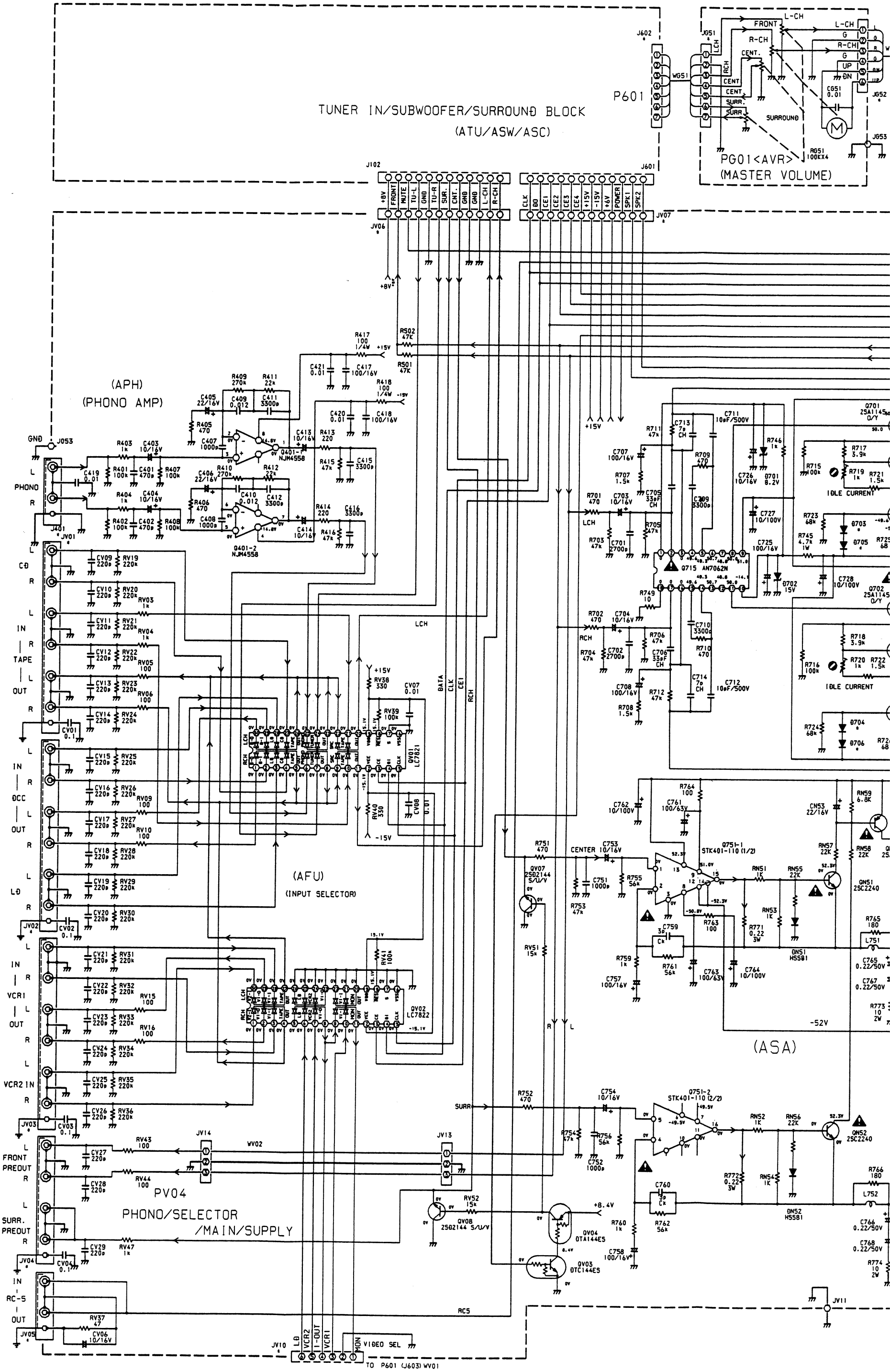
R641 10k
R642 10k
+15V
-15V
L-CH
CF03 100/10V
CF05 100P
RF07 100K
RF05 10K
QF01-2 NJM4558
RF03 47K
QF01-1 NJM4558
RF06 10K
CF04 100/10V
CF06 100P
R-CH
RF04 47K
RF08 100K
CG19 10/16V

CLK
00
CE1
CE2
CE3
CE4
+15V
-15V
+5V
SPK1
SPK2
J601
TO MAIN-PCB (JV07)

LCH
L+R
RCH
L-IN
R-IN

(ASC)
(SURROUND CONTROL)

PM711AV SCHEMATIC DIAGRAM



FROM U-COM BLOCK

FROM U-COM BLOCK

JE05

JE04

WOOFER/SURROUND BLOCK
(ATU/ASW/ASC)

P601

J602

WG51

JG51

L-CH
FRONT
R-CH
CENT.
SURR.
SURROUND

WE03

JG52

JG53

CG51
0.01

RG51
100KX4

PG01<AVR>
(MASTER VOLUME)

TONE BLOCK PE01
(ATO)

JE03

J601

JV07

JE01

WE01

JV08

JE02

WE02

JV09

GND TU-R SUR. CNT. GND GND L-CH R-CH

CLK DO CE1 CE2 CE3 CE4 +15V -15V +6V POWER SPK1 SPK2

RC5 CE1 CE2 CE3 CE4 CLK DO MUTE GND

R-CH GND L-CH MUTE POWER +8V +6V +15V -15V

POWER +22V (8V) +5V +15V -15V

8V02

8V03

+15V

+52V

-52V

-52V CN03

+52V

22/16V

Q701 2SA1145 O/Y

Q705 2SC3419Y

Q703 2SC2705 O/Y

Q707 2SD2033

Q709 2SB1353

Q711 2SC3182 R/O

Q713 2SA1265 R/O

QN01 2SC2240

ØN01 HSS81

IDLE CURRENT

Q715 AN7062N

Q702 2SA1145 O/Y

Q706 2SC3419Y

Q704 2SC2705 O/Y

Q708 2SD2033

Q710 2SB1353

Q712 2SC3182 R/O

Q714 2SA1265 R/O

QN02 2SC2240

QN03 2SA970

ØN02 HSS81

LCH

RCH

L701

L702

L

R

QN04 2SC3312 55V/100MA

QN05 2SC3312 55V/100MA

LN01 VB24MBU

LN02 VB24MBU

LN03 MR62-24USR

LN51 VB24MBU

ØN03

ØN04

ØN05

ØN53

QN06 TA7317P

CN04 0.01

CN05 47/16V

CN07 100/10V

CN10 1/50V

QN71 ØTA114ES /ETC

QN72 2SD21 S/U/V

DATA CLK CE1 RCH

QV07 2SD2144 S/U/V

RV51 15k

QV08 2SD2144 S/U/V

RV52 15k

QV04 ØTA144ES

QV03 ØTC144ES

+8.4V

Q751-1 STK401-110 (1/2)

Q751-2 STK401-110 (2/2)

CENTER

SURR.

QN51 2SC2240

QN52 2SC2240

QN53 2SA970

ØN51 HSS81

ØN52 HSS81

PV04 (AMA)
(MAINAMP)

(ASA)

(APS)

Q801 15V

Q803 -15V

Q802 5V

Q801 300-2 1.7A

Q802 300-2 1.7A

Q803 300-2 1.7A

Q804 300-2 1.7A

Q805 S5688G

Q806 S5688G

Q807 S5688G

Q808 S5688G

Q809 S5688G

Q810 S5688G

Q811 S5688G

Q813 33V

Q814 8.2V

J801

J802

J803

J804

JV11

JV12

JV13

JB13

JB14

W801

W803

POWER

230V

240V

L001
POWER TRANSFORMER

U-COM BLOCK
TO PU01 (JU03) WU01

1) Ø801.Ø802.Ø803.Ø804
300-2 VR=200V 1.7A

2) Ø805.Ø806.Ø807.Ø808.Ø809.Ø810.Ø811.ØB01.ØB02.ØB03
S5688G VR=400V 1A

3) Ø703.Ø704.Ø705.Ø706.ØN03.ØN04.ØN05.ØN06
ØN51.ØN52.ØV02.ØV03
ISS176 OR MA165 OR ISS254

4) QB01 VR=30V 0.1A
2SC536SP OR 2SC2458 OR 2SC3311 OR 2SC1740

3) WV01

FROM U-COM BLOCK

FROM U-COM BLOCK

JE05

JE04

JE03

TONE BLOCK PE01
(ATO)

JE01

JE02

WE01

WE02

JV08

JV09

RC5 CE1 CE2 CE3 CE4 CLK DO MUTE GND

R-CH GND L-CH MUTE POWER +8V +6V +15V -15V

8V02

8V03

POWER +22V (8V) +5V +15V -15V

HEADPHONE

PW01
(AHP)

J703

R747 330 2W

R748 330 2W

WW01

JW01

JW02

JW03

CW02 1000P

CW03 1000P

CW01 0.1

+52V

R741 180

L701

C721 0.22/50V

LN01 VB24MBU

RN13 10

QN04 2SC3312 55V/100MA

0N03

C723 0.22/50V

R743 10 2W

LN02 VB24MBU

RN14 10

QN05 2SC3312 55V/100MA

0N04

C722 0.22/50V

C724 0.22/50V

R744 10 2W

LN03 MR62-24U5R

RN15 10

0N05

R742 180

L702

LN51 VB24MBU

RN61 10

0N53

C741 0.01

C742 0.01

C743 0.01

C744 0.01

L-CH

G

G

R-CH

L-CH

G

G

R-CH

SYSTEM 1

SYSTEM 2

J701

JW52

C

CENTER

G

JW51

L

G

G

R

SURROUND

J702

JW53

W751

P601
(AST)

RN25 68K

RN26 68K

RN18 47K

QN06

TA7317P

RN17 8.2K

RN19 8.2K

RN20 33K

RN21 47K

RN22 100K

CN05 47/16V

CN07 100/10V

CN04 0.01

CN10 1/50V

QN71 DTA114ES /ETC

+15V

RN72 27K

QN72 2SB2144 S/U/V

RN73 47K

RN71 100

0N71 POSISTOR

PB01 (ABU)
(BUCK UP PCB)

RN60 33K

PV04 (AMA)
(MAINAMP)

CENTER

SURR.

RN23 33K

R804 4.7K

0811 S5688G

C813 2.2/50V

J801

+22 (8) V

G

POWER

W801

JB04

+22 (8) V

GND

POWER

RB04 330 2W

0B02 S5688G

0B01 S5688G

0B04 R020F B3

CB02 470/50V

AC 25.3V

CB01 0.01

LB01

JV12

JB13

CB05 0.01

CB04 0.01

JB14

RB02 10K

RB01 10

0V

22.1V

0B03 S5688G

CB03 0.01

LB02

JB08

FB01 T2.0A 250V

QB01 2SC536 SP/ETC

JB02

JB01

JB05

JB06

JB07

W001

AC 230V 50/60HZ

Q801 15V

R806 4.7 1/2W

+15V

C810 10/16V

Q803 -15V

R807 47 1/2W

-15V

C811 10/16V

Q802 5V

R809 4.7 1/2W

+5V

C812 10/16V

0801 308-2 1.7A

0802 308-2 1.7A

0803 308-2 1.7A

0804 308-2 1.7A

C802 8200 56V

C803 8200 56V

C801 0.01 500V

C806 1000/35V

C807 470/35V

0805 S5688G

0806 S5688G

0807 S5688G

0808 S5688G

C804 0.01

C805 0.01

R801 1/2W

R802 1/2W

R803 1/2W

J802

J803

W803

R805 56 1/2W

0810 S5688G

0809 S5688G

C809 47/50V

0813 33V

0814 8.2V

C808 100/50V

R811 100

R810 100

(APS)

L001

POWER TRANSFORMER

[/ 02] VERSION

F F VKK

J804

U-COM BLOCK
TO PU01 (JU03) WU01

1) 0801.0802.0803.0804
308-2 VR=200V 1.7A

2) 0805.0806.0807.0808.0809.0810.0811.0B01.0B02.0B03
S5688G VR=400V 1A

3) 0703.0704.0705.0706.0N03.0N04.0N05.0N06
0N51.0N52.0V02.0V03
ISS176 OR MA165 OR ISS254

4) QB01 VR=30V 0.1A
2SC536SP OR 2SC2458 OR 2SC3311 OR 2SC1740S

NOTE ON SAFETY :
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.